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COVER STORY: STAR-FLOWERED SOLOMON'S-SEAL

by Charles D. Bird
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Mirror, Alberta TOB 3CO

The Star-Flowered Solomon's-seal *(Smilacina stellata)* is a characteristic native species of moist, non-acidic and non-alkaline, black soils. Though especially common in the Aspen Parkland, it also occurs in favourable locations in the Prairies, Boreal Forest and Foothills. It is usually found in semi-shaded sites in coulees, ravines, valleys, around springs and aspen woods.

A monocot and member of the Lily Family, it stands around a foot high and has numerous clasping 1-5 inch (25-317 cm) long, lance-shaped leaves on upright, zig-zag stems. It occurs in beds and spreads by creeping, branched, underground rhizomes. The few to several flowers are small and are made up of six white, 3-5 mm long sepals and petals. They occur in terminal racemes. The inedible fruits are round, green, black-striped berries which turn black with age.

The plant has been found in flower as early as 15 April and as late as 21 July, but most observations have been made in May and June. Flowering comes first in warm, sunny sites and is later in those that are cooler and more shaded. It also varies with elevation, being earlier in the prairies and later in mountain valleys. The flowering period is abbreviated in hot, dry springs and extended in those that are cool and moist.

Figure 1 illustrates that the first flowering dates of *S. stellata* generally occur in the Lethbridge and Calgary areas which are more southern and more exposed to warm westerly winds while the later dates occur in the remaining, more northerly areas which are more exposed to cold northwesterly winds. Local weather conditions alter this, as in 1980 when the first date for Lethbridge was abnormally retarded because of a heavy, late snowstorm which hit the southernmost part of the province.

Figure 1 also illustrates that there is an overall correspondence from area to area to yearly weather conditions. Warm weather in the springs of 1976, 1977 and 1980 resulted in early dates; 1973, 1974 and 1978 were average; while 1975 and 1979 had cool springs and late dates.

EDITOR'S PAGE

by Martin K. McNicholl
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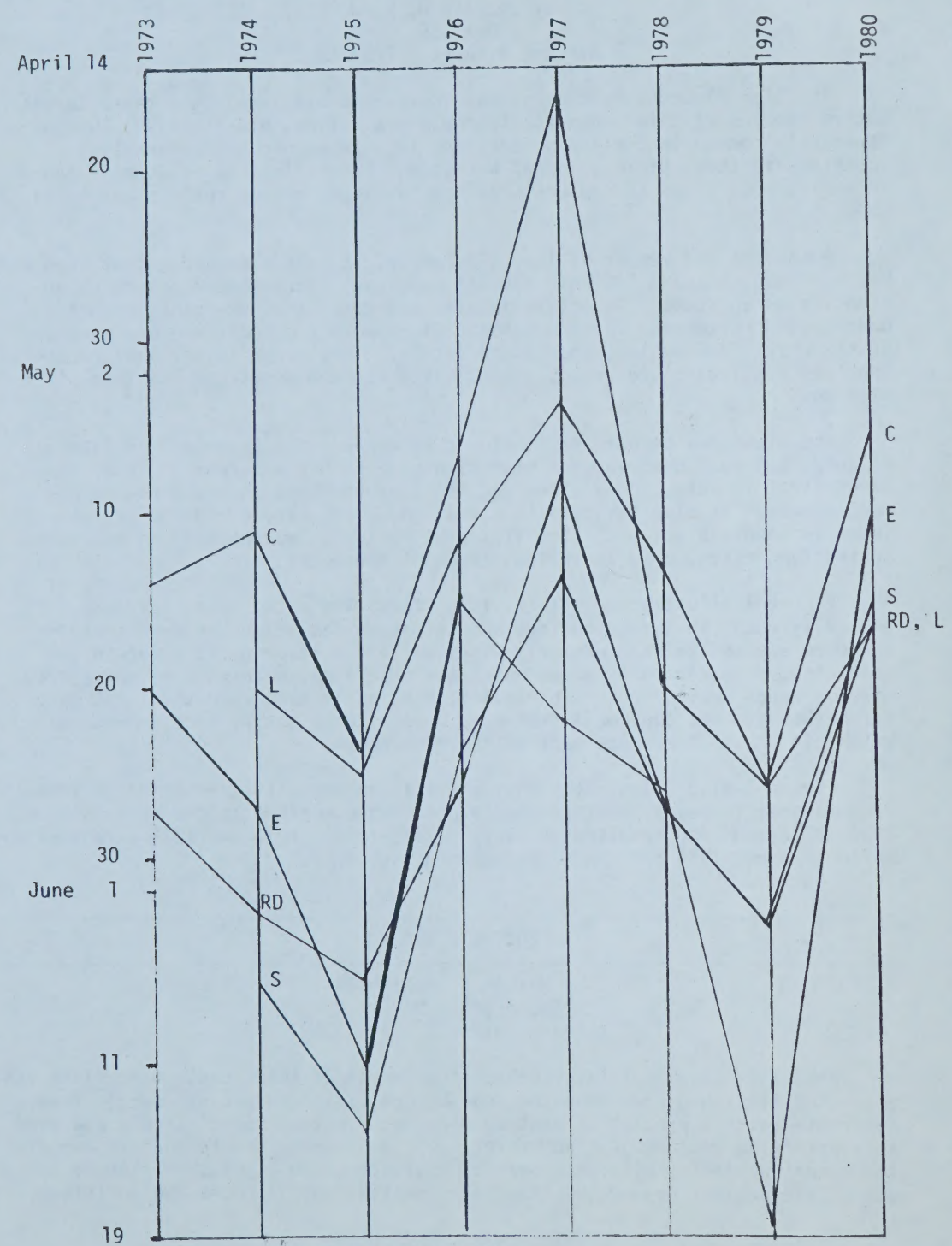
When I tackled my first research supplement of the Alberta Naturalist last year (the first had been done the year before by Virginia Lang Young), I was confronted with a problem on what to do about a cover story. It did not seem appropriate to include just any cover, so I decided to try to feature one of the annual projects, with some sort of analysis which might show readers a use of the project beyond the immediate compilation. I chose the Christmas

Figure 1. First flowering dates of *Smilacina stellata* in five Alberta areas (L = Lethbridge, C = Calgary, RD = Red Deer, S = Stettler, E = Edmonton).



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Bird Count partly because the data were easiest to use on short notice, partly because the cover for the first supplement had featured a flower, and partly because I knew a number of good bird artists. Ludo Bogaert obliged me with a cover. This year I had plenty of time to plan ahead, so asked Virginia Maitland to provide a drawing of one of Charlie Bird's phenology plants, and both she and Charlie have obliged me by providing an excellent cover and cover story respectively on the Star-flowered Solomon's-seal. Readers who would like to provide Virginia Young with a similar feature story for next year on any of the annual projects are hereby invited to let her know well in advance. Particularly welcome would be an article on a project not yet so featured, but readers burning with a desire to write an article based on the Christmas bird counts or phenology project should not feel inhibited!

Last year I added the Prairie Nest Record Scheme to this annual issue in order to encourage greater participation from Alberta in this important project. Herb Copland, co-ordinator of the scheme, has kindly summarized Alberta results this year, and provides the important information that Eric Tull is interested in encouraging this project in Alberta. I presume Eric will summarize the Alberta results in future years.

This year I am also pleased to welcome the Breeding Bird Survey to our Supplement. I hope Jack Park will be able to supply an annual report on Alberta participation in this continent-wide program.

In this issue, Wayne Weber invites wider participation in the Christmas Bird Counts at the continental level. The rules are, of course, somewhat more strict, but compilers should consider his invitation seriously, especially in areas where counts are conducted over a period of several years.

1980 ALBERTA FLOWERING DATES

---

by C.D. Bird
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The FAN Phenology Project has now been in operation for eight years. The results for 1980 are included herein while those of previous years are in earlier issues of this journal (4:7-14; 5:4-23; 6:3-27; 7:11-19; 8:9-26; 9 Suppl.:2-19; 10 Suppl.:5-8).

The project involves the recording of the dates of flowering of twelve native, widespread, easy-to-identify plants. The data obtained reveal whether a particular spring is early, average or retarded. These data can be used to aid in making gardening or agricultural decisions, e.g. when to plant potatoes, and as a base for comparison with bird, mammal or other faunal activities.

Flowering is interpreted as the opening of the petals and/or sepals to reveal the stamens and/or pistils. The shedding of pollen is also a good indicator of flowering. This is especially useful in aspen where sepals and petals are lacking and the flowers are unisexual.

Table 1 presents the full range of the 1979 data according to the locations in each area from which there were 1979 observations: Waterton Lakes National Park - general, Bertha Lake, Sofa Mountain Trail, Waterton;

TABLE 1. 1980 flowering dates of the twelve key species in all Alberta areas for which there were reports.

Areas \ Species	Prairie Crocus	Aspen	Early Blue Violet	Golden Bean	Saskatoon	Star-flowered Solomon's-seal	Choke Cherry	Yellow Pea Vine	Northern Bedstraw	Common Yarrow	Western Wood Lily	Brown-eyed Susan
Waterton Lakes Nat. Park	Ap26		Jn8-Jy1		Jy1	Jn8		Jn8-Jy1	Jy1	Jy1-Se19		Jy1-Se19
Milk River			My19	My19	My19	My19	My19					
Crowsnest Pass										Se3-23		Se3-23
Cypress Hills			Jn28		Jn28				Jn28	Se15-17		Jn28-Se17
Leth-bridge	Ap14-23			Ap23-Jn14	Ap28-My25	My17	My18-25		Jn14	My21-Jn28		My24-Jn28
Porcupine Hills	Ap4-My7		My1-Jn15	Ap30-Jn29	My7-Jn1	My20-Jn15	My17	My30-Jn15	My31-Jn29	My31-Au3	Jn15-22	Jn15-Jy21
Bow-Crow Forest Reserve			My31-Jn14		My18-Jn1	My31-Jn14		My31-Jy1	Jy1	Jy1-Se23	Jn14-Jy1	Jy1-Se10
Calgary	Ap12-My17 Oc7	Ap12-My11	Ap29-My29	Ap27-Jn28 Se9	Ap29-Jn7	My6-Jn22	My1-29	My24-Jy4	My24-Jn15 Au9	My28-Se23	Jn8-Jy11	Jn5-Se24
Canmore			My24-25	My24-25	My16-25	My24-25	My24-25	My24-Jn24	Jn22	Jn10-Se21	Jn24	Jn24-Se21
Drum-heller	Ap16-30	Ap16	My4-20	Ap30-My20	My4-22	My15-28	My12-27		Jn6-Jy30	Jn14-Jy25	Jn25-Jy10	Jn25-Jy27
Banff National Park	My4		My24-Jn29	My24-25	My24-25	My24-25	My24-25	My24-25	Jy20	Jn29-Jy27		

Species / Areas	Prairie Crocus	Aspen	Early Blue Violet	Golden Bean	Saskatoon	Star-flowered Solomon's-seal	Choke Cherry	Yellow Pea Vine	Northern Bedstraw	Common Yarrow	Western Wood Lily	Brown-eyed Susan
Red Deer	Ap13-My14	Ap20	Ap20-Jn11	Ap20-Jn21	My3-29	Mu17-Jn8	My11-28	My13-Jn21	Jn7-Jy5	Jn7-Se1	Jn21-Jy5	Jn14-21
Rocky Mountain House			My3-25 Se1	Jy11 Se1	My24-25	My24-25	My24-25	My14-Jy11	Jn8-Se1	Jn16-Se6	Jn12-Jy11	Jy11-Se27
Wainwright - Vermilion	Ap4-My4	Ap12-20	Ap28-My10	My1-3	My1-4	My15-23	My4-22	My23	My30-Jn3	Jn17	Jn14	Jn15-25
Stettler	Ap6-My4	Ap17-My11	Ap23-Jn13	Ap24-Jn13	Ap29-My16	My16-Jn1	My1-22	My25-Jn13	Jn7-8	Jn14-Oc13	Jn25-26	Jn14-Oc10
Jasper National Park						My22-24			Jy25-Au15	Au11-15		
Edmonton		Ap15-30	My2-25	My10-22	Ap27-My25	My11-Jn15	My4-27	My3-Jy5	My20-Au12 Se14	Jn8-Se25	Jn23-Jy12	Jy6-28
Whitecourt									Au11-15	Au11-15		
Athabasca			My17-18		My17-18			My17-18				
Peace River	Ap12-Jn11	Ap12	Ap26-My25		My5-Jn11	My13-Jn15	My7-Jn4	My24-25	My23-Au19	Jn16-Se30	Jn14	Jy13
Ft. McMurray	Ap14-30	Ap18-28	Ap22-My25		Ap18-My25	My24-25		My24-25 Au30	My24-Se30	My24-Oc31		

Milk River - Milk River Canyon; Crowsnest Pass - general; Cypress Hills - general; Lethbridge - Fort Macleod, Kipp, Lethbridge, MacIntyre Ranch; Porcupine Hills - general, High River; Bow-Crow Forest Reserve - Barrier Reservoir, Lusk Creek, Plateau Mountain, Ribbon Creek; Calgary - Calgary, Dogpound; Canmore - Canmore, Exshaw, Seebe, Yamnuska; Drumheller - Beynon; Banff National Park - Banff; Red Deer - Lacombe Lake, Red Deer, Tees; Rocky Mountain House - Cremona, Drayton Valley, Nordegg, Rocky Mountain House, Wildcat Hills, Winfield; Wainright-Vermilion - Dewberry, Hardisty, Laurier Lake, Vermilion; Stettler - Erskine, Ewing Lake, Mirror, Silver Sands; Jasper National Park - Cardinal River Divide, Grande Cache, Jasper, Prospect Mountain, Whitehorse Creek; Edmonton - Cooking Lake, Edmonton, Lake Wabamun, Sherwood Park, Tofield; Whitecourt - Edson, Hinton; Athabasca - Grouard, High Prairie; Peace River - Cleardale, Grande Prairie; and Fort McMurray - Fort Chipewyan, Fort McMurray.

Table 2 compares the first flowering dates for 1980 with the long term average first dates in the six best reported areas. A late snow storm led to retarded first dates for Prairie Crocus in most areas. The weather then changed abruptly with an extended period of some of the hottest and driest spring days on record. This resulted in the remaining key species coming into bloom considerably earlier than usual and in having abbreviated flowering periods. Agriculturally the result was a poor hay crop, especially from shallow rooted grasses, and spotty or retarded germination of grain crops.

The following 81 persons made observations during 1980: P. Achuff, P. Assmann, Myrtle Biggs, C.D. Bird, Debora Bird, Freda Blackwell, J.M. Boyle, Sheila Boyle, Dorothy Broadbent, G. Broadbent, Mary Butler, Edith Clark, Margaret Clarke, Pat Clayton, Joyce Cole, K. Cole, Ellen Craig, G. Craig, M. Cunningham, D. Cuthiell, Lorna Dahl, Mr. & Mrs. P. Demulder, Sheila Detherbridge, Marg Devin, D. Dew, Olga Droppo, W. Finlay, A. Fisher, M.E. Glabais, Gertrude Grafe, G.C.D. Griffiths, Betty Haig, Liz Hall, R. Hall, Beryl Hallworth, N. Hambleton, Cammie-Lou Hancock, C. Harper, Helen Harris, C. Harrowing, Ruth Harrowing, Marion Horrocks, J.D. Johnson, G. Kerr, J. Lange, J. LaValley, Jennie Lee, Marg Lewis, Sylvia Lirondelle, W. MacAlister, Yvonne MacAlister, Anne Machin, Virginia Maitland, Diane McIvor, M. McIvor, M. Moore, Grace Norgard, Cathy Osborne, Robina Polet, J.B. Posey, Esta Richardson, B. Robinson, M. Rogers, G. Ross, Hazel Ross, N. & W. Savage, B. Shantz, B. Smith, Mary Smith, Dierdre Spencer, D.J. Stiles, Kathy Tannas, A.S. Thorley, T. Thormin, Margaret Walker, Muriel Welling, C.E. Yauch, and S.C. Zoltai.

The Phenology Project will continue in 1981. A reporting form is enclosed for your use.* Please remove it, pin it on a bulletin board or keep in a handy place, jot down dates as the season progresses, then, at the end of the summer, mail to the FAN Phenology Coordinator. Extra copies of the form may be obtained from the Coordinator or through member clubs. Though designed especially for use on a farm, acreage, natural area, or other special place, the form can also be used on once-only trips to areas of particular interest, e.g. Writing-on-stone Provincial Park, and participants are urged to do so as the data obtained may not otherwise be recorded.

* FORM WAS ENCLOSED WITH MARCH. 1981 A.N.

		Lethbridge Area		Calgary Area		Red Deer Area		Stettler Area		Edmonton Area		Peace River Area	
Prairie Crocus	1980	Ap14	-3	Ap12	-9	Ap13	+9	Ap6	-8			Ap12	-6
	avg	Ap11		Ap3		Apr14		Ap14 (7)		Ap16 (6)		Ap18 (6)	
Aspen	1980			Ap12	-3	Ap20	+8	Ap17	+2	Ap15	+1	Ap12	+16
	avg	Ap4 (1)		Ap9		Ap28		Ap19 (6)		Ap16		Ap28(3)	
Early Blue Violet	1980			Ap29	0	Ap20	+18	Ap23	+8	My2	+2	Ap26	+14
	avg	My8 (6)		Ap29		My8		My1 (7)		My4		My10 (5)	
Golden Bean	1980	Ap23	+1	Ap27	0	Ap20	+19	Ap21	+11	My10	0		
	avg	Ap24		Ap27		My9		My5 (7)		My10 (5)		My27 (1)	
Saskatoon	1980	Ap28	+10	Ap29	+10	My3	+15	Ap29	+15	Ap27	+17	My5	+6
	avg	My8		My9		My18		My14 (7)		My14		My11 (6)	
Star-flowered Solomon's-seal	1980	My17	0	My6	+6	My17	+9	My16	+13	My11	+16	My13	+13
	avg	My17 (7)		My12		My26		My29 (7)		My27		My26 (5)	
Choke Cherry	1980	My18	+4	My1	+20	My11	+17	My1	+23	My4	+18	My7	+10
	avg	My22		My21		My28		My24 (7)		My22		My17 (5)	
Yellow Pea Vine	1980			My24	+6	My13	+13	My25	+5	My3	+20	My24	+6
	avg	Jn5 (3)		My30		My30 (7)		My30 (6)		My23		My30 (5)	
Northern Bedstraw	1980	Jn14	-1	My24	+13	Jn7	+1	Jn7	+3	My20	+22	My23	+22
	avg	Jn13 (5)		Jn6		Jn17 (7)		Jn10 (7)		Jn11		Jn14 (5)	
Common Yarrow	1980	My21	+8	My28	+6	Jn7	+11	Jn14	+1	Jn8	+11	Jn16	-2
	avg	My29		Jn3		Jn18 (7)		Jn15 (7)		Jn19		Jn14 (5)	
Western Wood Lily	1980			Jn8	+9	Jn21	-8	Jn25	+1	Jn23	+3	Jn14	+4
	avg			Jn17		Jn13 (7)		Jn26 (7)		Jn26 (7)		Jn18 (5)	
Brown-eyed Susan	1980	My24	+4	Jn5	+9	Jn14	+14	Jn14	+11	Jy6	+1	Jy13	-1
	avg	My28 (7)		Jn14		Jn28 (7)		Jn25 (7)		Jy7 (7)		Jy12 (3)	

TABLE 2:
First flowering dates for 1980 of the twelve key species in the six best reported Alberta areas.
Averages cover an eight year period (1973-1980) except where indicated by a lower figure in brackets.
The plus and minus figures indicate how much earlier or later the 1980 date was from the average.

ALBERTA CHRISTMAS BIRD COUNTS - 1980

by Virginia Lang Young
R.R. #1, Busby, Alberta TOG OHO

Eighty-eight bird species were recorded by 352 observers participating in nineteen Alberta Christmas Bird Counts this year. We attained a record number of counts as well as a record number of observers. Compilers of at least two of the new counts indicate their areas will be included regularly in the future. Snakes Head and Edson, both being conducted according to American Audubon Society rules for publication in American Birds, will become regulars for Alberta.

Calgary, once again, retains the Turner/Halladay Trophy for highest number of species (49), but I suspect Wabamun Lake may well give Calgary tough competition in coming years, for this year they were only two species short of Calgary's total.

Again this year the total number of individual birds recorded is down from last year. As far as rarities, this year's counts are remarkable only for their relative unremarkability.

Species highlights include a Steller's Jay in Edmonton, Hooded Merganser, Cooper's Hawk, Long-eared Owl and Pied-billed Grebe at Calgary, Barred Owl at the Western Wildlife Reserve, Purple Finch and an unverified Winter Wren at Erskine, Yellowheaded Blackbird, Western Meadowlark and Harris' Sparrow at Lethbridge, and large total number of Northern Three-toed and Pileated woodpeckers. Sharp-tailed Grouse, pheasant and partride reports are steadily rising following a sharp drop in numbers reported on the 1979 counts.

There were some interesting sightings during the count period but not on the count day. An Osprey and Gray-crowned Rosy Finches were recorded at Lethbridge. Sharp-shinned Hawk, Red-breasted Merganser, and Eared Grebe were among count period species recorded at Waterton Lakes.

Eight of the counts included reports of mammals as follows: Banff/Canmore: Mule Deer 7; Beaver 2; Red Squirrel 134; Elk 98; Mink 1, Coyote 14; Bighorn Sheep 15. Claresholm: White-tailed Deer 6; Jack Rabbit 4; weasel 1. Cold Lake: White-tailed Deer 1; Snowshoe Hare 3; Red Squirrel 11; vole sp. tracks. Edmonton: White-tailed Deer 5; Snowshoe Hare 2; Beaver 1; Red Squirrel 15; vole sp. tracks. Ft. McMurray: Snowshoe Hare 1; Moose 2. Lethbridge: Mule Deer 5; White-tailed Deer 30; Jack Rabbit 6; weasel 1; Striped Skunk 1 (dead). Vauxhall: White-tailed Deer 3. Wembley: Coyote 4. Ellen Craig, compiler of the Wembley count, said the four Coyotes were reported because of the surmise that they are becoming scarce. In their area of many bluffs and bush, to see four before mating time in February means they are quite common, according to Craig.

I am in the process of devising a (hopefully simple) standard form for compilers to submit their Christmas Bird Count results in the future. I would like greater input from individual count compilers (other than just names and numbers) which will hopefully help form a clearer over-all provincial picture of winter bird distribution. This will be mailed to all of this year's compilers in early December of next year. If you intend to conduct a count and would like a form, please contact me.

The Pileated Woodpecker occurred in unusually high numbers on the 1980 Christmas bird count. Photograph by Jim R. Salt.

Finally, regarding Table 2. Birds observed on the 1979 Alberta Christmas Bird Counts (Alta. Nat. Vol. 10 Suppl. 1, p.12) two amendments are in order. Delete Horned Grebe from the species list, and add Ruddy Duck (4, Wabamun Lake) to the species list.

Another record, of sorts, was set this year. I received just about all count reports within a week of the published deadline. For that I thank all individual count compilers.

Details of each count, as forwarded to me, are listed below. If additional details are required, check with the individual count compilers.

BANFF/CANMORE

51°10'N 115°28'W, center on Bow River 4.5 miles east of Banff in Banff National Park; elevation 4400 to 9836 ft. Habitat coverage: woodland 75 per cent, marsh 10 per cent, residential 10 per cent, old field 3 per cent, river 2 per cent.

20 December 1980; 8 am to 6 pm. Mostly cloudy. Temp. -16° to -20°C, wind NE 10 to 16 kph. Snow cover 0 to 25 cm. Fresh water mostly frozen. Wild food crop good.

Thirty-six observers, 30 in 12 parties, 6 at feeders. Total party hours 79.5 (65 on foot, 14.5 by car) plus 25 at feeders. Total party miles 190 (72 on foot, 118 by car). 39 species, 2265 individuals.

Observers: Donna Bohoslowich, Don Bourdon, Mary Burcher, Keith Cole, Corlaine Davidson, Halle Flygare, Bruce Ford, Rob Gardner, Stuart Guy, Rob Harding, Aileen Harmon, Paul Henstridge, Helen Herrle, Geoff Holroyd (compiler, Box 1343, Banff, Alberta TOL 0C0), Barb Hoover, Stuart Johnston, Ron King, Rhonda Markel, Keith McDougall, Margie McDougall, Diane McIvor, Mike McIvor, Harold Mortimer, Julie Mortimer, Jim Murphy, Patsy Murphy, Julie Murphy, Brian Patton, Heather Plewes, Jim Robertson, Marlene Russo, Morna Schechtal, Gary Truscott, Kevin Van Tighem, Jon Whyte, Gerry Wilkie. (Bow Valley Naturalists)

BOW SUMMIT

51°39'N 116°25'W, center south end of Bow Lake in Banff National Park including Peyto, Bow and Hector Lakes and Helen and Mosquito Creeks; habitat coverage: coniferous woodland 51 per cent; lakes and streams 26 per cent; alpine meadow 14 per cent; glacier 9 per cent. Elevation 5700 to 10741 ft.

3 January 1981, 9 am to 4:30 pm. Clear, temp. 4° to 25°F. Winds S, 0-5 mph. Snow cover, 36 to 45 inches. Fresh water mostly frozen. Wild food crop fair.

Twelve observers, 12 in 6 parties. Total party hours, 39 (33 on foot, 6 by car), total party miles 195 (48 on foot, 147 by car).

Observers: Don Bourdon, Rob Gardner, Geoff Holroyd, Rhonda Markel, Karen McCullough, Keith McDougall, Margie McDougall, Diane McIvor, Mike McIvor (compiler, Box 114, Banff, Alberta TOL 0C0), Julie Murphy, Marcia Smith, Kevin Van Tighem. (Bow Valley Naturalists)

CALGARY

21 December 1980. 49 species, 11079 individuals, 43 observers. Party hours 99 (64 on foot, 35 by car), party miles 451 (75 on foot, 376 by car). Weather: -3° to -6°F, Wind SE 8-13 mph, 10/10 cloud cover. Compiler: Ian Halladay, 2103 Crocus Road, Calgary, Alberta.

CLARESHOLM

28 December 1980. Observers: Hazel Hudson, Grace Norgard.

COLD LAKE

54°28'N 110°12'W, centre NW of town of Cold Lake, Alberta. 27 December 1980. 8:30 am to 4:00 pm.

Weather: AM 70-90 per cent overcast, clearing in early afternoon; temperature -14°C to -10°C. Snow cover 5-15 inches. Precipitation nil. Wind W 19 kph. Wild food crop fair.

One observer in one party, party hours 7.5 (4.5 on foot, 3 by car), party miles 39 (4 on foot, 35 by car). Compiler: Peter Assmann, 9808 - 84 Avenue, Edmonton, Alta. T6E 2G2.

Seen during count period but not on count day: Hairy Woodpecker 1; Brown Creeper 1; Golden-crowned Kinglet 1; Bohemian Waxwing 35; Hoary Redpoll 1; Common Redpoll 10.

EDMONTON

54°31'N 113°31'W, centre SW corner University of Alberta Farm, area and habitat coverage as described in 1974. Elevation 2050 to 2250 feet.

21 December 1980. 8 am to 5 pm. Weather: AM partly cloudy, PM overcast, light to moderate snow. Temperature: -20°C to -19°C. Wind SE 4 to 7 mph. Snow cover 5 to 10 inches. Wild food crop good. Fresh water partly open.

45 observers, 44 in 17 parties, 1 at feeder. Party miles 422.5 (335.5 by car, 87 on foot); party hours 102.5 (33 by car, 69.5 on foot).

Observers: Ed Andrusiak, Peter Assmann (co-compiler, 9808 - 84 Ave., Edmonton, Alta T6E 2G2), Kay Ball, Tom Barry, Bruce Bembridge, Gail Bembridge, Jenise Bidulock, Jim Butler, Graham Chambers, Lewis Clark, Ray Cromie, Peter DeMulder, Dave Dodge, Margo Dunsworth, Rainer Ebel, Dave Ealey, Jim Faragini, Graeme Greenlee, Patricia Greenlee, Miles Hennie, Betty Horton, Harry Horton, Don Kenyon, John Krowka, Ernie Kuyt, Mel Landry, Jim Lange, Marg Lewis, Mark Lund, Ronald McElhaney, Janet McElhaney, Doug Menzies, Jack Park, Bob Reckhow, Diane Reckhow, John Retallack, Ed Ridgeway, Barb Robinson, Craig Scharf, Virginia Scharf, Alf Scott, Dave Spalding, Liz Stinson, Terry Thormin (co-compiler, #306, 10630 - 122 St., Edmonton, Alta.), Bob Turner, Eric Wallace. (Edmonton Bird Club, Edmonton Natural History Club, John Janzen Nature Centre)

EDSON

15 mile diameter circle centered at 4th Ave. and 50th St., Edson, including town, farmland, pasture-land, muskeg and mixed forest. 4 January 1981.

Observers: Alain Magnan, J. Paul Marshall (compiler, Box 610, Edson, Alta. T0E 0P0), Darren Petersen, Julian Tubb. (The Hampson-Marshall Bird Club).

ERSKINE

7-1/2 mile radius, centre at Chas. Forsyth, NW32-37-21-W4, 6 miles south of Erskine and 4 miles west. Termperature, -6° to 0°C. Foggy with hoarfrost, then clear and sunny. Wind calm to light southwest. Crusty old snow to 20 cm with thawed bare spots.

1 unverified Winter Wren

Observers: Fionne Bell, Allan Clarke, Bertha Clarke, Rosemary Dowie, Bob Foster, Janie Foster, Susan Foster, Vera Hansen, Glady Hewlett, Wilf Hewlett, Martha Kruger, Ron Kruger, Bea Lohr, Marvin Lohr, Lloyd Lohr (compiler, Box 1414, Stettler, Alberta T0C 2L0), Virginia Maitland, Bob Marshall, Bruce Marshall, Darryl McCrinkle, Raymond McCrinkle, Sheila McCrinkle, Debbie McNeill, Donnie McNeill, Marlene McNeill, Lynnette McNeill, Lynn McNeill, Grace Neill, Grace O'Shea, Nick LaPietra, Kelly Stewart, Krista Stewart, Brent Wylie, Dianne Wylie.

FORT McMURRAY

23 December 1980. 9 am to 12:00 am. Weather, -33°C, winds SE 5-15 kph, skies 0-10 per cent cloud cover; ice-exhaust fog; variable snow cover. Party miles, 85 km by truck.

Participants: John Gulley (compiler, Boreas Environmental Consulting Services Ltd., P.O. Box 8201, Ft. McMurray, Alberta T9H 4J1), Sherry Gulley.

GRAND CACHE

A formal count circle was not drawn up, however none of the observations were from more than 7.5 miles (in keeping with the Audubon CBC standard) of the centre of the town of Grand Cache.

26 December 1980. 10:00 am to 5:00 pm. Weather: overcast with drizzle and rainy periods. Temperature 2° to 9°C (estimate). Wind W 5-45 kph (estimate). Snow cover 3 to 10 inches. Water mostly open. Habitat coverage: wooded upland 75 per cent; wooded river-bottom 15 per cent; black spruce bog 15 per cent, residential 5 per cent.

Five observers in 2 parties, 1 at window (comparable to feeder watching - minus a feeder). Total party hours 7 (4 on foot, 1 by car, 2 at window); total party miles 29 (7 on foot, 22 by car).

Observers: Dean Podlubny, Jamey Podlubny (compiler, 4520 Bulyea Rd., Calgary, Alta. T2L 2H3), Joe Podlubny, Miriam Podlubny, Christina Tilley.

LETHBRIDGE

27 December 1980, from Lethbridge and within a fifty-mile radius. Habitat coverage: residential, parks, river valley, coulees and prairie.

Weather: 9-10°C, wind southwest to west, 37-100 kph, chinook blowing. No snow, scattered clouds, scant rainshower.

40 species, 1840 individuals, 39 observers, 500 party miles by vehicle, 37 miles on foot.

Seen during count period but not on count day: Mallard 1000; Osprey 1[1]. Belted Kingfisher 1; Northern Three-toed Woodpecker 1; Gray-crowned Rosy Finch 9; Common Crow 20.

Observers: Shirley Arner, Diana Axtell, Mike Axtell, Bob Blair, Dale Blair, Dorothy Clark, Darwin Coxin, Betty Haig, Bob Hall, Jacky Hall, Liz Hall, Doris Hedenstrom, Hazel Hudson, Betty Luco, George Luco, Bud McKillop, Lois MicKillop, Betty Merrick, Gordon Merrick, Grant Nelson, Grace Norgard, Michael O'Shea (compiler), Peggy Pratto, Doris Rhodes, Alan Roberts, Gordon Ross, Hazel Ross, Marie Sauder, Moira Scott, Richard Scott, Keith Shaw, Shirley Shaw, Herb Sivyer, Frank Watkins, Willie Wiebe & Family, Amanda Wilkinson, Joyce Wilkinson, Paul Wilkinson.

RED DEER

26 December 1980. The day was slightly overcast, temperature -2°C to +3°C, no precipitation, wind light with occasional gusty periods.

Party miles, 57 (10 on foot, 5 by ski, 42 by car), observer hours 27.5. Four feeder counts.

Observers: Chris Bruels, Erling Glabais, Margaret Glabais, Helen Harris, Ley Harris, Bob Marston, Michael O'Brien, Patrick O'Brien, Maxine O'Riordan (compiler, 41 Springfield Ave., Red Deer, Alta. T4N 0C8), Allan Schutz, Fred Schutz, Kerry Wood, Marjorie Wood.

SNAKES HEAD

51°47°N 114°40'W, center at the center of Sec. 32, T32N R 5 W of 5th meridian, circle bisected by the Red Deer River, includes Bergen, Sundre, Westward Ho, Bentz Lake, Bearberry Prairie and upper McDougall Coulee. Elevation 3400 to 4300 ft., habitat coverage: creek and river-bottom 30 per cent, townsite 6 per cent, farmyard 4 percent.

4 January 1981. 8 am to 4:45 pm. Weather: am mostly clear, pm mostly

[1] Editor's note: Winter records of the Osprey in North America are so unusual that Allen D. Cruickshank, former bird count editor for Audubon Field Notes/American Birds used to automatically reject virtually all records, even in Florida, not fully documented. Thus full documentation of this record should be submitted to the AORC before it can be accepted. - M.K.M.

cloudy. Temperature 11° to 45°F. Wind WSW 0-7 mph. Snow cover 0 to 12 inches. Water partly open. Wild food crop fair.

Seven observers, 3-5 in 2 parties, 2-4 at feeders. Total party hours, 17.25 (8 on foot, 9.25 by car) plus 8 hours at feeders; total party miles 155 (18 on foot, 137 by car).

Observers: Doug Collister, Kathy Glosky, Ferrell Haug, Stuart Johnston (compiler: Wildlife Reserve of Western Canada, Cochrane, Alta. TOL OWO), Ruth Marsh, Jamey Podlubny, Peter Sherrington.

The compiler advises me this CBC will be published in American Birds in the July 1981 issue. It was organized and conducted for the first time this year, pretty much spur of the moment. Only the two feeder-watchers actually lived within the count circle. More local participation will be sought out for next year's count and perhaps some of the Red Deer River Naturalists will become involved once they know this count will be conducted again next year.

STETTLER

7 1/2 mile radius center at Streit Bro; NE 3-39-19-W4, 2 miles east of Stettler and 1 1/2 miles north. Temperature: 21°C to 15°C. Partly cloudy, wind SE light to calm. Old crusty snow to 20 cm, fresh snow to 5 cm.

Seen during count period but not on count day: Ring-necked Pheasant 1.

Observers: Jim Burrel, Hugh Charles, Elsie Cruickshank, Earl Cruickshank, Trudy Grafe, Bernice Greenlee, Carol Greenlee, Lloyd Greenlee, Art Haywood, Vera Hansen, Herb Hayes, Gladys Hewlett, Wilf Hewlett, Eva Kirtley, Martha Kruger, Ron Kruger, Albert Kruse, Ralph Lehman, Bea Lohr, Marvin Lohr, Lloyd Lohr, Virginia Maitland, Bob Marshall, Bruce Marshall, Elmer McColl, Grace Neill, George Neill, Grace O'Shea, Barb Smith, Kent Strandquist, Dewey Unruh.

VAUXHALL

26 December 1980. Observers, Willie Wiebe and family.

Seen during count period but not on count day: Bald Eagle 1.

WABAMUN LAKE

15 observers in 12 parties. Total party hours, 61.75 (36.25 by car, 25.5 on foot); total party miles 352 (314 by car, 38 on foot). Temperature -15°C to -2°C, clear skies. Food crop, poor.

Observers: Stuart Arkett, Peter Assmann, David Cuthiell, Rainer Ebel (compiler: Warbler Books, Box 4943, South Edmonton Postal Stn., Edmonton, Alberta T6E 5G8); Graeme Greenlee, Charles Harper, Ernst Kuyt, Jim Lange, Sylvia L'Hiromdelle, David Poll, Gerry Potter, Craig Schars, Duane Sept, Alan Smith, Terry Thormin.

WATERTON LAKES NATIONAL PARK

3 January 1981, 9:30 am to 3:30 pm. Weather: -5° to +12°C. Wind 20 kph with gusts to 60 kph. Sunny, warm in sheltered spots. Only shaded areas and mountains had snow. Grasslands completely clear, townsite almost totally free of snow. Comments: Good weather with all roads open except section of

Akamina Highway from Rowe Creek to Cameron Lake (accessible by x-c skiing). Bird feeders operational at Lunn's and Strate's. Birds were more widely distributed than usual due to the mild weather.

Species seen during count period but not on count day: Goshawk 1; Sharp-shinned Hawk 1; Mallard 2; Red-breasted Merganser 1; Bufflehead 3; Dipper 3; Eared Grebe 1; Canada Goose 3.

Observers: Betty Haig, Bob Hall, Liz Hall, Lois McKillop, Mike O'Shea, Sheila Pethenbridge, Peggy Prato, Doris Rhodes, Gordon Ross, Hazel Ross, Lynn Turner, Paul Wilkinson, Joyce Wilkinson, and Jessica Wilkinson (all from Lethbridge), Gerry Lunn and Jen MacDonald (from Edmonton), Ken Goble, Carolyn Lunn, Simon Lunn (compiler, Waterton Lakes National Park, Waterton Park, Alberta, T0K 2M0), Bill Thorpe, Derek Tilson, Rob Watt (all from Waterton Park).

WEMBLEY

20 and 21 December 1980 (whichever day was most suitable for each individual or group of observers). There was light snow both days with temperatures around -18°F and northeasterly winds.

Observers: Ellen Craig (compiler: R.R. #1, Wembley, Alta. T0M 3S0), Gavin Craig, Walter MacAlister, Yvonne MacAlister.

Comments from compiler: A few things different than last year were the presence of a Great Gray Owl and Pine Grosbeaks this year whereas last year they were almost non-existant all winter, and two of the Downy Woodpeckers at the Craig's feeders were unusual. One is greyish where it should be white and the other is very dark sooty grey where it should be white, making it appear almost all black in poor light.

WILDLIFE RESERVE OF WESTERN CANADA

51°26'N 114°35'W, center SW corner Sec. 36 T28N R5 W5, north to Water Valley, south to Wildlife Reserve of Western Canada, including Bottrel and stretches of Little Red Deer River. Elevation 3725 to 5000 feet. Habitat coverage: wooded upland and edge 50 per cent; wooded creek and riverbottom 30 per cent; open farmland 10 per cent; brushy range 9 per cent; farmyard 1 per cent.

3 January 1981, 8 am to 5:30 pm. Weather: clear, temperature 20° to 50°F, calm, snow cover 0 to 12 inches. Water partly open. Wild food crop fair.

Observers: Des Allen, Lillian Barber, Laralei Byatt, Barb Collister, Dough Collister, Olga Droppo, Dorothy Hazlett, Isle Hoffman, Stewart Holohan, Stuart Johnston, Ruth Marsh, Kay Morck, Anders Nielsen, Jamey Podlubny (compiler:4520 Bulyear Rd., Calgary, Alta. T2L 2H3), Ed Quist, Bill Rackstraw, John Riddell, Daphne Rogers, Mike Rogers, Laurie Sedgewick, Neil Sedgewick, Barbara Sherrington, Ian Sherrington, Mark Sherrington, Peter Sherrington, Andrew Slater, Dierdre Spencer, John Steeves, Marion Steeves, Don Stiles, Philip Stiles, Pearl Stone, Helen Whitlow, Al Wiseley, Ray Woods.

This CBC will be published in American Birds in the July, 1981, issue.

April 1981 16 Alta. Nat. V.11, Suppl.1

TABLE 1. Birds observed on the 1980 Alberta Christmas Bird Counts.[1.]

	Banff/ Canmore	Bow Summit	Calgary	Claresholm	Cold Lake	Edmonton	Edson	Erskine	Ft. McMurray	Grand Cache	Lethbridge	Red Deer	Snakes Head	Stettler	Vauxhall	Wabamun Lake	Waterton L. Natl. Park	Wembley	Wildlife Res West. Canada	TOTALS
Western Grebe																4				4
Pied-billed Grebe			1													3				4
Canada Goose			12								21									33
Mallard	219		2182	3		56							18			639				3117
Gadwall			3													60				63
Pintail			1													2				3
Am. Green-winged Teal	3		2																	5
American Wigeon													1			19				20
Northern Shoveler																1				1
Redhead																20				20
Ring-necked Duck																5				5
Canvasback																1				1
Lesser Scaup																2				2
Common Goldeneye	36		388			16	1									373	3			817
Barrow's Goldeneye	21															1				22
Bufflehead						1										6				7
Ruddy Duck																2				2
Hooded Merganser			1																	1
Common Merganser			23			1														24
Duck Sp.	22										1									23
Goshawk	1		2									1	1			1			2	8
Sharp-shinned Hawk	1																			1

	Banff/ Canmore	Bow Summit	Calgary	Claresholm	Cold Lake	Edmonton	Edson	Erskine	Ft. McMurray	Grand Cache	Lethbridge	Red Deer	Snakes Head	Stettler	Vauxhall	Wabamun Lake	Waterton L. Natl. Park	Wembley	Wildlife Res. West. Canada	TOTALS
Cooper's Hawk			1											1						2
Red-tailed Hawk	1					1					1									3
Rough-legged Hawk	1		2		2						6								4	15
Golden Eagle			1							1	5	1			1		1			10
Bald Eagle	1		8		1											3	1			14
Marsh Hawk											1				1					2
Hawk Sp.								1												1
Gyrfalcon			1													1			1	3
Prairie Falcon			2								1				1				1	5
Merlin			4			6					4	1								15
American Kestrel											1			1						2
Ruffed Grouse			2		2	2	1	6		1		3	5			19		7	19	67
Sharp-tailed Grouse			10		12			1	3					5	12	13	4	22	6	88
Ring-necked Pheasant			11	8		24		8			26	1			2					80
Gray Partridge			69	4		166		7			65	8		4		34		3		360
American Coot																16				16
Rock Dove			385	28		589		46			315x	141	5	97		81		25	37	1749+
Grt. Horned Owl			2			2		4			6	2	1	1	2	7	2		6	35
Snowy Owl			3	1		1		1			2			3	1			1		13
Hawk Owl	1	1						1												3
Barred Owl																			1	1
Great Gray Owl																		1	1	2
Long-eared Owl			1																	1
Short-eared Owl						4														4

	Banff/ Canmore	Bow Summit	Calgary	Claresholm	Cold Lake	Edmonton	Edson	Erskine	Ft. McMurray	Grand Cache	Lethbridge	Red Deer	Snakes Head	Stettler	Vauxhall	Wabamun Lake	Waterton L. Natl. Park	Wembley	Wildlife Res West. Canada	TOTALS
Belted Kingfisher	1																			1
Common Flicker	1		7			2					12									22
Pileated Woodpecker					2		2	3				4	3			1	1		2	18
Hairy Woodpecker	10		8			12	4	2			4	7	7	9		15	3	2	14	97
Downy Woodpecker	7		15	4	1	41	3	3			10	11	10	16		25	5	3	17	171
Blk.-b. 3-toed Woodp.						1										1				2
Nor. 3-toed Woodpecker	13		5		2	2							1			2	2		12	39
Horned Lark				3							72				24			12		111
Gray Jay	47	10					16			1			19			43	5		75	216
Blue Jay					5	76	15	4			6	26	15	7		74		4	16	248
Steller's Jay	1					1						1					2			5
Blk.-billed Magpie	210		498	43	16	658	19	111			239*	71	83	91	14	223	21	11	183	2491
Common Raven	290	6	7	3	25		23		181	31	1		14				15		41	637
Common Crow	15		22				1	3		2	7								2	52
Clark's Nutcracker	49	2															1			52
Blk.-capped Chickadee	273	12	239	12	34	561	42	82	2	15	143*	164	76	98		539	26	15	335	2668
Mountain Chickadee	197	1															8		6	212
Boreal Chickadee	112	23	32		12	17	12			4		15	56			60			101	444
Chickadee Sp.	30																			30
Wht.-br. Nuthatch	4		4		1	22	5				7	2	5			15			12	77
Red-br. Nuthatch	8	4	7	1		4					2	2	1			1	2		6	38
Brown Creeper	2		5									3				1	1		1	13
American Dipper	14	2																	4	20
American Robin						2	2				1									5
Golden-cr. Kinglet	2		11									1				1			4	19

	Banff/ Canmore	Bow Summit	Calgary	Claresholm	Cold Lake	Edmonton	Edson	Erskine	Ft. McMurray	Grand Cache	Lethbridge	Red Deer	Snakes Head	Stettler	Vauxhall	Wabamun Lake	Waterton L. Natl. Park	Wembley	Wildlife Res. West. Canada	TOTALS
Bohemian Waxwing	1		5211			5268	19				166	525		2			30			11222
Cedar Waxwing						7									17					24
Northern Shrike			1		2	2		1			2					2		2	4	16
Common Starling	1		157	8	9	118					53					1			3	350
House Sparrow	355		650	121	21	1016	56	197	4		535*	170	99	305	23	36	1	24	187	3800
Western Meadowlark											4									4
Yel.-head. Blackbird											2									2
Purple Finch								3												3
Finch Sp.	2	2																		4
Pine Grosbeak	68	5	83		12	122	4	6		1	9	6	9	6		20		28	18	397
Evening Grosbeak	40		141		8	976	5	11			54	274	40	2		50		7		1608
Hoary Redpoll			1			3										1			2	7
Common Redpoll	1		760	32		571		108			35*	91	110	24	15	130		30	150	2057
Redpoll Sp.		1																		1
Pine Siskin											14	12								26
Red Crossbill	1	7																		8
Wht.-winged Crossbill	148	23	35										1			6			13	226
Dark-eyed Junco	1					4					2						1			8
Tree Sparrow			4								2								3	9
Harris' Sparrow											1									1
Lapland Longspur														60						60
Snow Bunting	54		58	3	40		121	25	2		2			232		88	50	70	2	747
TOTAL # SPECIES	39	13	49	15	19	35	19	22	5	9	40	26	27	19	12	47	22	18	36	88
TOTAL # INDIVIDUAL BIRDS	2265	99	11079	274	207	10353	350	639	192	56	1840	1543	580	964	113	2648	185	267	1291	34942
# OF OBSERVERS	36	12	43	2	1	45	4	33	2	5	39	14	7	31	2*	15	22	4	35	352

1. Names are those used by the American Ornithologists' Union 1957 Checklist of North American Birds. Fifth ed. Amer. Ornithol. Union, Baltimore, except where modified by Eisenmann et. al. 1973, Auk 90:411-419.

A MESSAGE TO ALBERTA CHRISTMAS BIRD COUNT COMPILERS

by Wayne C. Weber
303-9153 Saturna Drive
Burnaby, B.C. V3J 7K1

Beginning with 1980, I will be serving as the Christmas Bird Count (CBC) Regional Editor for western Canada for the journal American Birds, published by the National Audubon Society. Last year, more than 1300 counts from throughout North America, including 143 Canadian counts, were published by American Birds. However, of 14 Alberta counts published in the Alberta Naturalist last year, only 6 appeared in American Birds. My purpose in this announcement is to urge Alberta CBC compilers to submit their counts to American Birds if they don't already do so.

The Alberta Naturalist performs a valuable service by publishing CBC results in its annual Supplement each spring. However, few people outside Alberta read AN. Most of us go on Christmas Bird Counts mainly because they're fun, but the resulting data are very useful in scientific studies and in conservation efforts as well. By publishing your CBC results in American Birds (circulation 15,000), you will make them available to birders and ornithologists throughout Canada and the U.S., and put your local count "on the map," so to speak. Because American Birds loses money each year, they require a small fee of $1.50 U.S. ($1.75 or $1.80 Canadian, at current exchange rates) per CBC observer. According to your preference, you may either ask each observer to pay the fee, or ask your local club to cover the cost. You could do as I do in compiling the Vancouver, B.C. CBC: ask each observer for $2.00 flat, and use the "extra" to photocopy a one- or two-page summary of count results and mail it to each participant as a sort of "thank you."

There are some basic rules in doing a CBC for American Birds. The most important of these are that counts must be done within a 15-mile (24-km) diameter circle, and must be done in a single calendar day within a specified period each year. A few Alberta CBCs, as done in 1979, do not follow these rules: for instance, the Grande Prairie count was done over 2 days, and the Lethbridge count covered a 100-mile (!) diameter circle. Obviously, such counts cannot be fairly compared with the others, and would not be published by American Birds unless they changed to the standard rules.

If you decide to start a new count, or to begin submitting your established count to American Birds, write before 1 November 1981 to: CHRISTMAS BIRD COUNT, AMERICAN BIRDS, 950 THIRD AVENUE, NEW YORK, N.Y. 10022, U.S.A. Include with your letter: (1) a map of your (proposed) count circle; (2) names of the nearest adjacent counts (if known); and (3) an indication of the size and experience of your count group. You should receive a set of instructions and an official report form by 30 November. Counts from remote areas are especially desired. Are there any birders in, say, High Level who could do a count? More to the point, are there any birds there? We'd like to know!

Finally, I'd like to encourage all Alberta birders, CBC compilers or otherwise, to subscribe to American Birds. For the modest sum of $18.00 (U.S.) a year -- about the cost of a tankful of gas-- you get 6 issues a year, including CBC results, regional reports detailing unusual bird sightings

throughout the continent, and interesting articles on all sorts of topics: in short, everything you need to know to keep abreast of changes in North American birdlife. To subscribe, send a money order to AMERICAN BIRDS at the address above.

I hope this blurb will stimulate some of your to submit your count to American Birds, and I'd like to thank our Editor, Martin McNicholl, for giving me the space for it.

MAY SPECIES COUNT FOR 1980 - BIRDS AND MAMMALS

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by Allen N. Wiseley
202 - 635 56 Ave. S.W.
Calgary, Alberta T2V 0G9

It rained. The deluge was general over the province during the whole weekend, but appeared lighter at Red Deer and in a few other locations on Sunday. The rain was a welcome change from the two month drought and early forest fire season, but unfortunately cut into our normal levels of participation and either cancelled or postponed local counts and thereby reduced much of the coverage.

Winter and spring moisture was lower than usual and hopes for a good waterbird season were low when the heat of April and most of May dried up most of the prairie ponds. The late May turn-around in weather did more than refill the ponds. It seemed as if it had rained passerines. Beginning on Friday the 23rd, a heavy migration of these birds was occurring. The strong north winds and cold temperatures probably halted these flocks and halted their progress until the unfavourable weather had passed, about five days later. During that time dozens of interesting species could be found in the shelter of woodlots, riverine and foothill forests and backyards. Interesting was the large numbers of eastern warblers, *Empdenax* flycatchers and thrushes. Thus, the bad weather had its rewards.

Results

Table 1 shows the numbers of each bird species recorded on the 1980 May Species Count in each of the eight main areas. Part of the Lethbridge count and the entire Red Deer count were held on the weekend of 31 May and 1 June. Tallies for that weekend are indicated by columns headed by asterisks(*).

Statistics for the province are listed below:

		% change from 1979
Count areas: 7	(8 both weekends)	-22%
Observers: 86	(132 both weekends)	-54%
Number of species: 202	(210)	-6%
Number of birds: 45600+		

Because of unavailable figures, no totals or estimates of team and observer hours and miles were made. Generally, however, it is expected that time and

Table 1. Bird Species Observed, May Count 1980

	Leth	*	Calg	Ban	Yam	Stett BL	Red Deer *	Edm	Ft Mac	Total
Common Loon	1		2	6	2			4	4	19
Red-necked Grebe			21	4		6	2	61	wk	94
Horned Grebe	4	13	62			38		35	2	154
Eared Grebe		56	512			12	7	151	21	759
Western Grebe	1							4		5
Pied-billed Grebe			17			2		10	2	14
White Pelican								wk		
Double-crested Cormorant			78					7		85
Great Blue Heron		6	4			2		15	1	28
Black-crowned Night Heron			5					15		20
American Bittern		2	1	3		wk		4	1	11
Trumpeter Swan		1								1
Canada Goose	11	378+	168	72		24	61	21		735
Snow Goose									wk	
Mallard	16	379+	219	60	9	256	104	332	99	1474
Black Duck									wk	
Gadwall	5	27	149			105		89	7	382
Pintail	22	195+	157				56	63	47	540
Green-winged Teal	2	6	21	8				73	60	170
Blue-winged Teal	2	638+	271	16		223	121	282	31	1584
Cinnamon Teal		14	6	2			2	1		25
American Wigeon	6	24	87			120	6	70	57	380
Northern Shoveler	16	199+	113			95	37	117	71	648
Redhead		56	111			27	51	91	8	344
Ring-necked Duck			50	20	14			81	40	205
Canvasback	11	33	247	2		60	30	13	wk	396
Lesser Scaup	16	78	242			218	92	317	21	986
Common Goldeneye	wk		8			15	16	20	38	97
Barrow's Goldeneye			1	14	4	2		27		48
Unid. Goldeneye			1							1
Bufflehead		3	29		11	20	3	76	25	167

* - coverage on 31 May - 1 June; wk - present count week, not during count

	Leth *		Calg	Ban	Yam	Stett BL	Red Deer *	Edm	Ft Mac	Total
Harlequin Duck			4							4
White-winged Scoter		2	12	2				23	wk	39
Surf Scoter								4		4
Ruddy Duck	2	26	397			2	7	128	10	572
Hooded Merganser			10						wk	10
Common Merganser		5	5	13				2		25
Goshawk			1							1
Sharp-shinned Hawk								wk		
Cooper's Hawk			1					5		6
Unid. Accipiter			1					1		2
Red-tailed Hawk		24	20		1	13	7	31	2	98
Broad-winged Hawk			wk					1		1
Swainson's Hawk	2	28	28				2	12		72
Rough-legged Hawk									3	3
Ferruginous Hawk		1				wk				1
Golden Eagle		2			1					3
Bald Eagle				1						1
Unid. Buteo								6		6
Marsh Hawk	2	11	12			7	4	8	5	49
Osprey	1			2						3
Prairie Falcon		1	1			1				3
Peregrine Falcon								1		1
Unid. Large Falcon			1							1
Merlin			2				1	5	wk	8
American Kestrel	2	25	15			2	8	11	26	89
Ruffed Grouse			5	2	2	6	2	11	wk	28
Sharp-tailed Grouse		3	5					1	wk	9
Ring-necked Pheasant	4	30	5			4	wk	3		46
Gray Partridge		32	10				2	4		48
Sandhill Crane		1	1						wk	2
Sora		1	14	20	2	8	2	47	19	113
American Coot	6	137	155	12		151	95	324	158	1038
Semipalmated Plover								2		2
Killdeer	6	57	60	1		16	8	45	26	219
Amer. Golden Plover								12		12
Black-bellied Plover			178					10	wk	188

	Leth	*	Calg	Ban	Yam	Stett BL	* Red Deer	Edm	Ft Mac	Total
Common Snipe		8	14	9	3	7	1	22	16	80
Long-billed Curlew		30	2							32
Whimbrel								1	wk	1
Upland Sandpiper			5							5
Spotted Sandpiper	9	8	52	9	7	8	4	49	20	166
Solitary Sandpiper			6					2	wk	8
Greater Yellowlegs			2	2	4			4	wk	12
Lesser Yellowlegs			16			2		8	26	52
Unid. Yellowlegs								21		21
Willet	10	15	41			4		11		81
Ruddy Turnstone								40		40
Red Knot								100		100
Sanderling			2					18	4	24
Semipalm. Sandpiper			736			2		2	wk	740
Least Sandpiper	wk		23			62			wk	85
Baird's Sandpiper			1					3	wk	4
Pectoral Sandpiper			1131					190	7	310
Short-billed Dowitcher			3					10		13
Long-billed Dowitcher		1	2			15		5		23
Unid. Dowitcher								29		29
Buff-breast. Sandpiper								20		20
Marbled Godwit	12	44	39			1		77		173
Hudsonian Godwit		1								1
American Avocet	1	115				9		17	2	144
Wilson's Phalarope	15	148+	158			54	42	90	12	419
Northern Phalarope			183			19		300		502
Glaucous Gull									wk	
Herring Gull						20		1	994	1015
California Gull			3058			6	1	76	813	3954
Ring-billed Gull			1626			82	8	431	16	2163
Unid. white-headed gull	68+	522+					100	233		923
Franklin's Gull		512+	621			362	29	516	27	2067
Bonaparte's Gull			9	3				50	3	65
Forster's Tern								5		5
Common Tern	3	3	38			86		17	5	152
Unid. Tern								9		9

	Leth	*	Calg	Ban	Yam	Stett BL	* Red Deer	Edm	Ft Mac	Total
Black Tern	12	27	297		1	91	77	199	131	835
Rock Dove	2	86	43			23	2	46		202
Mourning Dove	10	50+	12	1					1	74
Great Horned Owl		6	8				wk	1	3	18
Burrowing Owl		4								4
Short-eared Owl									wk	
Saw-whet Owl								2		2
Common Nighthawk	1	7	2				wk	40	wk	50
Ruby-throated Hummingbird								3		3
Rufous Hummingbird				6						6
Calliope Hummingbird					4					4
Unid. hummingbird			1					1		2
Belted Kingfisher	1	4	5	1	1		2	2	1	17
Common Flicker	7	21	15	3	3	5	1	3	10	68
Pileated Woodpecker							1	2	1	4
Yellow-bellied Sapsucker			3			3		1		7
Hairy Woodpecker						3	1	5		9
Downy Woodpecker		2	2	1		3	1	wk		9
Eastern Kingbird	15	149+	32	2	2	7	7	28	4	246
Western Kingbird	5	46+	1	1		1		1		55
Eastern Phoebe	wk		2			2			wk	4
Say's Phoebe				1					1	2
Yellow-bellied Flycatcher								wk		
Willow Flycatcher			wk							
Alder Flycatcher	wk						6	2	1	9
Least Flycatcher		6	38	5	4	11	2	173	20	259
Dusky Flycatcher			1							1
Unid. Empidonas Fly.	wk		2							2
Western Wood Pewee	1	1	6			2	1	7		18
Olive-sided Flycatcher	wk		2		2			1	wk	5
Horned Lark	20+	103	58					10	wk	191
Violet-green Swallow		17			4					21
Tree Swallow	2	7	249	20	10	237	206	322	40	1093
Bank Swallow	100+	167+	162			271		317	179	1196
Rough-winged Swallow	300+	62+	39	6	8	1	100	wk		516

	Leth	*	Calg	Ban	Yam	Stett BL	* Red Deer	Edm	Ft Mac	Total
Barn Swallow	52+	128+	335	5	2	8	10	151	13	704
Cliff Swallow	15+	266+	76	8		6	300	212	1739	2622
Unid. swallow							100			100
Purple Martin						22	wk	4		26
Gray Jay				2	6				6	14
Blue Jay	wk						6	18	1	25
Black-billed Magpie	52	149+	95	25	1	33	18	100	wk	473
Common Raven			8	3	3				117	131
Common Crow	8	142	183	18	2	164	18	88	16	639
Black-capped Chickadee		17	15	5	1	6	10	41	4	99
Mountain Chickadee			1		3					4
Boreal Chickadee			1	3				wk		4
White-br. Nuthatch							2	1		3
Red-breast. Nuthatch				4	2		3	wk	2	11
American Dipper			1							1
House Wren	13+	36	11			22	5	23		110
Long-tailed Marsh Wren		2	6	1		16		20	1	46
Rock Wren		3								3
Northern Mockingbird		1				wk				1
Gray Catbird		8				2		3		13
Brown Thrasher		9								9
American Robin	38+	154+	89	14	14	33	36	134	60	572
Varied Thrush			5	2						7
Hermit Thrush			8		2				3	13
Swainson's Thrush	16	7	26	3				8	17	77
Gray-cheeked Thrush			1					3		4
Veery	2							1		3
Mountain Bluebird		8	18		2	54		6		88
Townsend's Solitaire			3		3					6
Golden-crowned Kinglet				5						5
Ruby-crowned Kinglet	1	3	24	22	8			1	11	70
Water Pipit									11	11
Sprague's Pipit		5	4			2		5		16
Cedar Waxwing	8	9								17
Loggerhead Shrike		2						wk		2

	Leth	*	Calg	Ban	Yam	Stett BL	* Red Deer	Edm	Ft Mac	Total
Common Starling	22	321+	156	11		96	57	194	63	920
Solitary Vireo	1		3					2	2	8
Red-eyed Vireo			2			1	5	31	11	50
Philadelphia Vireo			wk				1			1
Warbling Vireo		4+	14	3	4		wk	20		45
Black + White Warbler			wk					wk	5	5
Tennessee Warbler		1	45	15	4			89	72	226
Orange-crowned Warbler	wk		1	3				1	wk	5
Yellow Warbler	7	33+	34	7	2	9	16	127	53	288
Magnolia Warbler			wk					6		6
Yellow-rumped Warbler	4	2	41	25	16		5	16	7	116
Townsend's Warbler			1	6						7
Black-throated Green Warbler			1					wk		1
Chestnut-sided Warbler			wk					wk		
Bay-breasted Warbler			1					wk		1
Blackpoll Warbler	1		3					5		9
Ovenbird	wk		7		5			13	12	37
Northern Waterthrush			4					1	20	25
Connecticut Warbler								1		1
Mourning Warbler	wk		1					5	wk	6
MacGillivray's Warbler			wk							
Unid. Oporonis Warbler						1				1
Common Yellowthroat		7	13	15	6			19	11	71
Wilson's Warbler			2	6				4	1	13
Canada Warbler	wk		wk					2	3	5
American Redstart			3					24	1	28
House Sparrow	44+	337+	84	7		114	44	85	10	725
Bobolink		1						3	1	5
Western Meadowlark	23	106+	24					5	1	159
Yellow-headed Blackbird	125+	493+	160			219	30	156	39	1222
Red-winged Blackbird	125+	358+	296	200	12	222	123	603	151	2090
Northern Oriole	16	30	39			20	29	97		231
Rusty Blackbird									1	1
Brewer's Blackbird		256+	106			82	50	119	67	680
Common Grackle	14	7	1			6	2	19	43	92

	Leth	*	Calg	Ban	Yam	Stett BL	Red Deer *	Edm	Ft Mac	Total
Brownheaded Cowbird	15	52	44	80	20	25	3	70	2	311
Western Tanager								3	4	7
Rose-breasted Grosbeak	wk		11				1	31	2	45
Evening Grosbeak	2									2
Purple Finch			2			1	1	3	wk	7
House Finch - new			1							1
Pine Siskin			4			1		wk	wk	5
American Goldfinch	1	21				16	6	17		61
Rufous-sided Towhee		11+	1							12
Savannah Sparrow		93	94	7		1	3	98	44	340
Grasshopper Sparrow		1								1
Bairds' Sparrow	wk		7							7
LeConte's Sparrow			4			3	1	41	wk	49
Vesper Sparrow	11+	97+	27		5	12		3		155
Lark Sparrow	1	6								7
Dark-eyed Junco			6	12	5		1	6	8	38
Tree Sparrow									3	3
Chipping Sparrow	15+	31	75	25	15	8	12	109	46	336
Clay-colored Sparrow	3	48	77	2		6	14	127	41	318
Harris' Sparrow									1	1
White-crowned Sparrow	3	10	17	8		1	1	wk		40
White-throated Sparrow		3	19			2	6	79	87	196
Lincoln's Sparrow		1	17	6	4		1	32	20	81
Swamp Sparrow							1	5	11	17
Song Sparrow	5	10	6	8	2	11	4	54	43	143
McCown's Longspur		2								2
Chestnut-collared Longspur		12+	19							31

mileage in cars increased over normal travel times and distances on foot.

Generally numbers of birds were markedly lower. Considering a 10 to 30 percent loss as within normal fluctuations, numbers of some species showed marked increases or decreases. (Remember, however, that increased driving may have influenced numbers of some species.). Among grebes, Red-necked and Pied-billed grebes increased while Eared and Western grebes decreased. Mallards and Pintails were down considerably in the prairies, but Mallards showed an overall increase thanks to increases in parkland numbers. Green and Blue-winged teal were up, Cinnamon Teal and Northern Shoveler down. Diving ducks were generally up (Redhead, Ring-necked Duck, Canvasback, Barrow's Goldeneye, Ruddy Duck, and mergansers), but Lesser Scaups and White-winged Scoters were down. Hawks were nearly all down in numbers, probably due partly to the bad weather, but Marsh Hawks were notably low. No definite trends appear in the usually badly sampled gallinaceous birds. Sora and American Coot were up in numbers. Shorebirds which are normally counted only in a few locations, showed some increases among Spotted Sandpipers, Lesser Yellowlegs, Ruddy Turnstone, Red Knot, Semipalmated, Least, and Pectoral sandpiper, and Long-billed Dowitcher. Northern Phalaropes had a marked increase. Decreases in Willet, Sanderling and Baird's Sandpipers can be seen. Gull counters were busy at Calgary, Edmonton, and Fort McMurray, and produced large numbers for most common species (plus Bonaparte's). Franklin's Gulls were notably down on the southern prairies and up in Alberta's parklands. Common Terns were up, while Black Terns doubled over 1979. Totals for Mourning Doves were down, as were those for Burrowing Owls. Short-eared Owls disappeared entirely, from a 1979 count of 27, while Common Nighthawks skyrocked from 7 to 50. No patterns were seen among woodpeckers. Eastern Kingbirds were up, while Westerns were down. Both phoebes and the Western Wood Pewee were down, but Least Flycatchers increased. Horned Larks were noticeably down in numbers. Higher counts of most swallows were recorded, except for Purple Martins that decreased. Blue Jays, Red-breasted Nuthatch and House Wren numbers were lower than expected, while Long-billed Marsh Wrens increased. As noted previously fair numbers of Swainson's Thrushes were found during migration as were a few vireos and warblers including Red-eyed Vireo, Tennessee Warbler, Yellow Warbler, Ovenbird and American Redstart. Calgary totals pushed Ruby-crowned Kinglets up, due to foothill coverage.

Among the Icteridae (blackbirds), Common Grackles and Northern Orioles had increased counts, but Cowbirds, Yellow-heads and Western Meadowlarks were down, the latter noticeably so. In general sparrow totals were well up, particulary LeConte's, Chipping, White-crowned, White-throated, Lincoln's, Swamp and Song sparrows. The Lethbridge count of Chestnut-collared Longspurs was down considerably.

Only one new species appeared on the list this year: the House Finch sighted near Calgary. Notes were taken on a female House Finch because of the difficulty of its identification (P. Sherrington and A. Wiseley). A Northern Mockingbird and a McCown's Longspur at Lethbridge would also be new to the count, but were seen on the weekend following the recognized count weekend.

The highest species totals came from Edmonton with 155, which edged out Calgary by one at 154, followed by Fort McMurray 99, Stettler/Buffalo Lake 91, Lethbridge 71, Banff 68, and Yamnuska 48. Red Deer recorded 79, but their count was held a week later. Lethbridge would have counted almost 50 species

Swainson's Thrushes were prominent on the 1980 May Count. Photograph by Jim R. Salt.

or more in addition but those were also counted the following weekend and weren't added into the totals.

Mammals

The following is a listing of mammals tabulated during the count weekends 2, 25 May, 31 and 31 May, 1 June:

	Lethbridge	Calgary	Stettler/ Buffalo Lk.	Edmonton
White-tailed Jackrabbit	25			
Snowshoe Hare			2	
Cottontail	1			
Least Chipmunk				1
Richardson's Ground Squirrel	236		5	3
Columbian Ground Squirrel		4		
Franklin's Ground Squirrel				1
Thirteen-lined Ground Squirrel			1	
Red Squirrel			1	15
Beaver				1
Muskrat			5	2
Black Bear		1		
Striped Skunk	1			1
Mule Deer	1	9		
White-tailed Deer	1		2	2
Bighorn Sheep		10		

The cottontail at Lethbridge was a new addition to the list of mammals seen on the May Species Count.

Local Count Data (arrange south to north)

Lethbridge

24, 25 May and 31 May, 1 June, no times available. Observers: 14 1st weekend, 36 2nd weekend, 46 total both weekends. Hours: unavailable, (N/A). Weather: 1) Precip N/A, N/A; 2) Precip 0,0; Cloud 1) 1.0 to 1.0, 1.0 to 1.0, s) N/A, N/A; Wind 1) NW 19-22 km/h, N 52 km/h to NW 96 km/h, 2) SW 11 kmh to S 17 km/h, SW 28 km/h to W 32 km/h; temp. 1) 7^{o}-9^{o}C, 4^{o}-8^{o}C, 2) 10^{o}-15^{o}C, 11^{o}-17^{o}C. Team mileage: by car 1) N/A, 2) 388 mi (624 km); by walking 1) N/A, 2) 32 mi (52 km). Areas: 1) N/A, 2) Lethbridge Nature Reserve (bush), Stirling Lake, Fort Whoop-Up Trail, Monarch, Russell Ranch, Luco Farm, Claresholm, Granum; Lethbridge Nature Reserve (coulees), 6-Mile Coulee, Prairie N. Coaldale, Chin Lakes, Cardston, Airport Sloughs, Claresholm. Observers: S. Arner, M. Axtel, D. Croft, J. Croft, G. and M. De Groot, E. Dougan, B. Haig, B. Hall, L. Hall, L. Halmrast, P. and F. Harper, D. Hendenstrom, H. Hudson, I. Ivison, H. Johnson, R. and S. Kuipers, B. and G. Luco, B. and G. Merrick, D. Nash, G. Norgard, M. O'Shea, (compiler), S. Petherbridge, A. Roberts, G. and H. Ross, F. and K. Russell, E. and S. Salter, F. Schultz, K. and S. Shaw, H. Sivyer, M. Siwik, B. Skeith, M. Thompson, F. Watkins, W. Weibe, J. and P. Wilkinson.

Calgary

24, 25 May, times N/A. Observers 17 (+19 students), 13-19. Hours: N/A. Weather: Precip. 0.76 cm rain, 1.85 cm rain; Cloud 0.8 to 1.0, 0.9 to 1.0; Wind NNW 34 km/h, NNW 44.5 km/h; Temp. 4.4° to 10.3°C, 3.9° to 6.2°C. Team mileage: by car 630 mi (1014 km), by foot 7 mi (11 km). Areas: Winchel, Lost, Chestermere, Cochrane, Bruce, Frank and Silver lakes, McElroy, Cawthorne Estate and Priddis sloughs, Irricana Reservoir and sloughs, Sheep and Elbow rivers, Sheep Sanctuary, Inglewood Bird Sanctuary, Bluerock Creek, Bragg Creek Provincial Park. Observers: B. Arrell, C. Barclay, D. Collister, O. Droppo, D. Elphinstone (+9 students), S. Fraser, S. Johnston, B. Millham, L. Montgomery, J. Podlubny, J. Riddell (+10 students), D. and M. Rogers, P. Sherrington, N. Stelfoy, D. and P. Stiles, M. White, A. Wiseley (compiler).

Banff

25 May, 0600-1700 hrs. Observers: 2. Observer hours: 19. Team hours: 11 (4 car, 7 walking). Weather: Precip. 1.94 cm rain, all day; Cloud 1.0 all day; Wind W 0-17 km/h; Temp 5°-7°C. Areas: locations within 6 mi of Banff townsite. Team mileage: by car 52 mi (84 km); by foot 11 mi (18 km). Observers: Diane and Mike McIvor (compiler). Comments: Western Kingbird was a new Banff National Park record.

Yamnuska

24 May, 0700-1600 hrs. Observers: 2. Observer hours: 18. Team hours: 12, (2 car, 10 walking). Weather (Banff): Precip. 0.34 cm rain, 0700-1300; Cloud 0.6 to 0.9; Wind E; Temp. 4°-13°C. Area: Yamnuska Natural Area. Team mileage: by car 8 mi (13 km); by foot 12 mi (19 km). Observers: Diane and Mike McIvor (compiler).

Stettler-Buffalo Lake

24, 25 May, 0800-2100 hrs, both days. Observers: 27. Observer hours: N/A. Team hours: N/A. Weather: Precip. 1 cm from 0800 to 2000, 0.2 cm from 0800 to 2000; Cloud - smoke and mist haze; Wind (day 2) NW 26 km/h; Temp. 10°-13°C, 9°-11°C. Areas: North Erskine, Rochon Sands, White Sands, Boss Hill, N.E. Botha, S.E. Stettler, Boss Hill Prov. Park. Observers: L. Bickle, J. Burrell, E., G. and D. Clark, A. and B. Clarke, R. Dowie, P. Fargey, T. Grafe, B. and L. Greenlee, V. Hansen, H. Hayes, A. Haywood, G. and W. Hewlett, E. Kirtley, M. Kruger, L. Lohr (compiler), V. Maitland, B. Marshall, E. Moman, G. Neill, E. Smith, L. Stewart, K. Strandquist.

Red Deer

31 May, 1 June, 1800-2030 hrs, 0800-1800 hrs. Observers: 14. Observer hours: 5, 61.5. Team hours: 2.5, 24. Weather: Precip. nil, 0.1 cm rain from 1700 to 1800; Cloud 0.1 to 0.3, 0.8 to 0.3; Wind E to SE 15 to 25 km/h, E to NW 10 to 20 km/h; Temp. 14°-17°C, 9°-18°C. Areas: Gaetz, Grassy and Sylvan lakes; Slack's and Lou's Esso sloughs, Red Deer townsite, roadsides and sloughs within 10-12 mi radius Red Deer. Observers: D. and G. Broadbent, E. and M. Glabais, M. Cunningham, H. and H. Harris, D. Henderson, M. Moore, M. O'Riordan, N. and W. Savage, F. Schutz, S. Thorley.

Edmonton

24, 25 May, 0540-2100 hrs, 0600-2100 hrs. Observers: 11, 15 = 18.

Observer hours: 88.5 98.5. Team hours: 42.5, 50.5. Weather: Precip. 0.24 cm rain, 0.82 cm rain; Wind N 24 km/h, N 30 km/h; Temp. 6.9° to 10.2°C, 6.4° to 8.8°C. Areas: University of Alberta Botanical Gardens, Clifford E. Lee Sanctuary, Elk Island National Park, Bretona Slough, Beaverhill Lake, Nisku, Devon, Fort Saskatchewan, Sherwood Park, Westlock, Edmonton: Christmas Bird count area; Whitemud Creek, Millwoods, Terwilligan Park. Team mileage: by car 538 mi (866 km), by foot 47.5 mi (76 km). Observers: P. Assmann (compiler), K. Ball, I. Barrington-Leigh, B. and B. Bembridge, R. Cromie, C. Harper, M. Hennie, L. and W. Hochachka, J. Lange, E. Mc'Intyre, J. Park, L. Pilarski, A. Scott, B. Turner, E. and L. Wallace. Comments: Most birding was done during lulls between showers. Several unusual species noted during week of wet weather.

Fort McMurray

24, 25 May 0400-0900 hrs, 0400-1400 hrs. Observers: 2, 4=4. Observer hours: 10, 10. Team hours: 5, 5 (by car 9, by foot 1). Weather: Precip. 1.26 cm from 0454 to 0810, trace, Cloud 1.0, 1.0; Wind ENE 15-20 km/h, N to NW 5 to 10 km/h; Temp. 5°-15°C, 5°-10°C. Areas: N of Suncor lease to Fort McMurray to Gregoire Lake Park. Team mileage: by car 137 mi (220 km), by foot 2.5 mi (4 km). Observers: R. Arbuckie, S. and J. Gulley (compiler), B. Wylie.

CORRECTION TO 1979 MAY SPECIES COUNT: The numbers for Chestnut-collared Longspur were shifted in the column in the 1979 (Alta. Nat. 10, Suppl. 1: 29, 1980). They should read: Lethbridge 251, Calgary 9. None should be included for Banff.

RESULTS OF THE 1980 MAY DAY COUNT (PLANTS)

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The following is a tabulation of the results of the botanical portion of the 1980 May Day Count (24-25 May). Due to inclement weather on the count weekend, this report also includes observations of plants in flower from the Milk River Canyon on 19 May, and some from Calgary on 28-29 May, in addition to those from the designated count weekend. The areas from which reports were received have been listed in approximate latitutinal order from south to north. Thirteen reports were received from the 1980 count, with 42 people participating.

The method of reporting is basically the same as that used for the counts from the past two years (Johnson 1979), with the following exceptions. Reporting for this count (as well as all subsequent counts) will include only the flowering plants; conifers will no longer be included. Also, a more conservative approach has been adopted as to whether or not a particular species reported was actually in flower. Some of the more questionable records have been omitted. Hence, a number of the following reports may not include all of the species originally submitted.

When reports from previous years are considered in light of the more conservative method of reporting used in the present count, the number of species recorded in flowers in 1980, 277, is a record high for the May Day Count* - this despite the fact that the weather on the count weekend was inclement and few people participated when compared to previous years. In 1979, 159 species were recorded in flower by 51 participants. The years 1979 and 1980 offer two extremes in terms of plant phenology. Reported totals in 1980 were from 1 1/2 to 2 times the number recorded from about two weeks behind that of an average year. This was clearly evident in the low number of species recorded in flower. On the other hand, 1980 had a hot, dry and early spring with plant development from three weeks to a month in advance of 1979. There was a definite shift to later flowering species in 1980. Most of the early flowering species, especially the deciduous trees, were past flowering at the time of the 1980 count, while many of the usually later flowering species, such as *Apocynum, Symphoricarpos, Achillea* and *Gaillardia* were coming into flower earlier than usual.

Following is a list of observers, totals (1979 in brackets) and other pertinent remarks for each area.

1. Milk River: On 19 May Peter Achuff recorded 36 species in flower on the Pinhorn Grazing Reserve, Milk River Canyon.

2. Lethbridge: Six participants reported a total of 59 species in flower. The areas covered included Six Mile Coulee, the Fort Whoopup site and the Nature Reserve. Those taking part in the count were Sheila Detherbridge, Betty Haig, Bob and Liz Hall, and Hazel and Gordon Ross.

* The previous record was 266 species in 1977.

1980 MAY DAY COUNT: PLANTS IN FLOWER

(Nomenclature as in FLORA OF ALBERTA (E.H. Moss 1959))

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
TYPHACEAE (Cattail Family)												
Typha latifolia	Common Cattail										+	
JUNCAGINACEAE (Arrow-grass Family)												
Triglochin maritima	Seaside Arrow-grass							+				
GRAMINEAE (Grass Family)												
Agropyron cristatum	Crested Wheat Grass										+	
A. smithii	Western Wheat Grass			+								
Bouteloua gracilis	Blue Grama Grass	+										
Festuca scabrella	Rough Fescue			+								
Hierochloe odorata	Sweet Grass			+				+	+	+	+	+
Poa sp.	Blue Grass								+			
CYPERACEAE (Sedge Family)												
Carex sp.	Sedge											
C. aquatilis	Water Sedge			+	+	+			+			
C. aurea	Golden Sedge								+			
C. filifolia	Thread-leaved Sedge	+						+				
C. foenea	Dry-spike Sedge											
C. lasiocarpa var. latifolia	Hairy-fruited Sedge							+	+			
C. rostrata	Beaked Sedge							+				
C. sartwellii	Sartwell's Sedge								+	+		
C. sprengelii	Sprengel's Sedge			+								
C. viridula	Green Sedge											
Eleocharis acicularis	Needle Spike Rush							+				
Eriophorum sp.	Cottongrass							+				
E. scheuchzeri	Scheuchzer's Cottongrass											+
E. vaginatum	Cottongrass										+	
Scirpus americanus	Three-square Rush							+		+		
S. validus	Common Great Bulrush							+				

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamnuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
ARACEAE (Arum Family)												
Calla palustris	Water Arum											+
JUNCACEAE (Rush Family)												
Juncus balticus	Wire Rush			+								
LILIACEAE (Lily Family)												
Allium schoenoprasum	Wild Chives								+			
A. textile	Prairie Onion	+	+	+								
Disporum trachycarpum	Fairy Bells			+	+	+	+		+		+	+
Fritillaria pudica	Yellow-bell	+										
Maianthemum canadense	Wild Lily-of-the-Valley						+	+	+	+	+	+
Smilacina racemosa	False Solomon's-seal				+						+	
S. stellata	Star-flowered Solomon's-seal	+		+	+	+	+	+	+	+	+	+
S. trifolia	Three-leaved Solomon's-seal									+		+
Streptopus amplexifolius	Twisted-stalk								+			
Zygadenus gramineus	Death Camas	+		+								
IRIDACEAE (Iris Family)												
Sisyrinchium montanum	Blue-eyed Grass		+		+		+					+
ORCHIDACEAE (Orchid Family)												
Calypso bulbosa	Calypso Orchid				+	+						+
Corallorhiza striata	Striped Coral-root Orchid				+						+	
C. trifida	Pale Coral-root Orchid				+	+		+				+
Cypripedium calceolus	Yellow Lady's-slipper			+	+		+		+			
Habenaria hyperborea	Northern Green Bog Orchid					+						
H. obtusata	Blunt-leaved Bog Orchid				+	+						+
H. viridis	Bracted Bog Orchid											
Orchis rotundifolia	Round-leaved Orchid					+						+

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamnuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
SALICACEAE (Willow Family)												
Salix sp.	Willow				+	+						+
S. arctica	Arctic Willow				+							
S. bebbiana	Beaked Willow		+								+	
S. exigua	Grey Sandbar Willow		+									
S. glauca	Glaucous Willow							+				
S. lutea	Yellow Willow										+	
S. petiolaris	Willow									+		
S. pyrifolia	Balsam Willow									+		
BETULACEAE (Birch Family)												
Alnus crispa	Green Alder				+				+		+	+
Betula glandulosa	Dwarf Birch				+						+	
B. occidentalis	Water Birch				+	+					+	
B. papyrifera	Paper Birch				+							
SANTALACEAE (Sandalwood Family)												
Comandra pallida	Pale False Toadflax	+	+	+	+	+	+	+				+
Geocaulon lividum	Northern False Toadflax				+	+				+		+
POLYGONACEAE (Buckwheat Family)												
Eriogonum flavum	Yellow Umbrella-plant		+									
Polygonum aviculare	Common Knotweed								+			
CHENOPODIACEAE (Goosefoot Family)												
Atriplex nuttallii	Salt Sage		+									
Chenopodium album	Lamb's-quarters								+			
C. capitatum	Strawberry Blite											+
C. hybridum	Maple-leaved Goosefoot								+			
Endolepis suckleyi	Rillscale	+										
Eurotia lanata	Winter Fat		+									
Monolepis nuttalliana	Spear-leaved Goosefoot								+			

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
CARYOPHYLLACEAE (Pink Family)												
Arenaria capillaris	Sandwort				+							
A. congesta	Sandwort	+										
A. lateriflora	Broad-leaved Sandwort							+	+	+		+
Cerastium arvense	Field Chickweed		+	+	+	+	+	+				+
C. vulgatum	Mouse-ear Chickweed										+	+
Stellaria longifolia	Long-leaved Chickweed											+
S. longipes	Long-stalked Chickweed								+			+
RANUNCULACEAE (Buttercup Family)												
Actaea rubra	Baneberry				+	+	+	+	+	+	+	+
Anemone canadensis	Canada Anemone		+	+			+		+			+
A. multifida	Cut-leaved Anemone		+	+	+	+						+
A. parviflora	Northern Anemone			+	+							
A. patens	Prairie Crocus				+	+						
Aquilegia brevistyla	Blue Columbine						+		+			+
A. flavescens	Yellow Columbine				+							
A. formosa	Red Columbine										+	
Caltha palustris	Marsh Marigold								+	+		+
Clematis verticellaris	Blue Clematis			+	+	+	+		+			
Coptis trifolia	Goldthread											+
Ranunculus sp.	Buttercup					+						
R. abortivus	Small-flowered Buttercup						+		+	+		+
R. acris	Tall Buttercup				+							
R. cardiophyllus	Heart-leaved Buttercup				+							
R. cymbalaria	Creeping Buttercup			+		+		+	+			+
R. glaberrimus	Early Buttercup					+						
R. lapponicus	Lapland Buttercup											+
R. rhomboideus	Prairie Buttercup						+				+	
R. sceleratus	Celery-leaved Buttercup						+					
Thalictrum venulosum	Veiny Meadow Rue			+	+		+	+	+	+		+

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
FUMARIACEAE (Fumitory Family)												
Corydalis aurea	Golden Corydalis				+	+		+	+		+	+
CRUCIFERAE (Mustard Family)												
Arabis sp.	Rock Cress				+	+						
A. divaricarpa	Purple Rock Cress				+	+						
A. hirsuta	Hairy Rock Cress				+	+						
A. holboellii	Reflexed Rock Cress	+		+								+
Barbarea vulgaris	Yellow Rocket				+	+						
Brassica kaber	Wild Mustard								+			
Capsella bursa-pastoris	Shepherd's-purse				+			+	+		+	+
Descurainia richardsonii	Grey Tansy Mustard							+				
D. sophia	Flixweed				+	+		+				+
Draba aurea	Golden Draba				+	+						
D. cana	White Draba				+							
D. nemorosa	Annual Draba				+			+	+			
Erysimum chieranthoides	Wormseed Mustard				+							
E. inconspicuum	Small-flowered Rocket		+	+								
Lepidium densiflorum	Common Peppergrass							+				
Lesquerella alpina	Bladder-pod	+										
Physaria didymocarpa	Double Bladder-pod				+	+						
Rorippa nasturtium-aquaticum	Water-cress					+						
Thlaspi arvense	Stinkweed		+			+		+	+	+	+	+
CRASSULACEAE (Orpine Family)												
Sedum rosea	Rose-root				+							
SAXIFRAGACEAE (Saxifrage Family)												
Chrysosplenium iowense	Golden Saxifrage								+	+		+
Mitella nuda	Bishop's-cap				+		+		+	+		+
Ribes americanum	American Black Currant							+	+			+
R. glandulosum	Skunk Currant									+		+

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
R. hirtellum	Wild Gooseberry									+	+	+
R. hudsonianum	Wild Black Currant					+				+		+
R. lacustre	Bristly Black Currant					+					+	
R. oxyacanthoides	Wild Gooseberry			+	+	+	+	+	+		+	+
R. triste	Wild Red Currant						+		+	+		+
Saxifraga bronchialis	Spotted Saxifrage				+							
ROSACEAE (Rose Family)												
Amelanchier alnifolia	Saskatoon-berry	+	+	+	+	+	+		+	+	+	+
Crataegus chrysocarpa	Hawthorn			+								
Dryas drummondii	Yellow Mountain Avens				+	+						
D. hookeriana	White Mountain Avens				+							
Fragaria vesca	Woodland Strawberry										+	+
F. virginiana	Wild Strawberry			+	+	+	+	+	+	+	+	+
Geum allepicum	Yellow Avens											+
G. triflorum	Three-flowered Avens	+	+	+	+	+	+	+			+	+
Potentilla anserina	Silverweed		+	+	+		+	+			+	
P. concinna	Early Cinquefoil				+							+
P. diversifolia	Cinquefoil				+							
P. fruticosa	Shrubby Cinquefoil			+	+	+	+					
Prunus pensylvanica	Pin Cherry				+							+
P. virginiana	Choke Cherry	+	+	+	+				+	+	+	+
Rosa sp.	Wild Rose			+	+		+		+	+	+	
R. acicularis	Prickly Wild Rose											
R. arkansana	Prairie Rose		+						+	+	+	+
R. woodsii	Common Wild Rose		+	+				+				
Rubus acaulis	Dwarf Raspberry				+	+	+		+	+	+	+
R. chamaemorus	Cloudberry											
R. pubescens	Dewberry				+	+	+	+	+	+	+	+
R. strigosus	Wild Red Raspberry				+	+	+	+	+		+	+
Sorbus scopulina	Mountain Ash											+

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LEGUMINOSAE (Pea Family)												
Astragalus aboriginum	Indian Milk Vetch				+	+						
A. agrestis	Purple Milk Vetch						+	+	+		+	
A. bisulcatus	Two-grooved Milk Vetch		+									
A. crassicarpus	Ground Plum			+								
A. decumbens	Timber Milk Vetch				+							
A. flexuosus	Milk Vetch		+									
A. missouriensis	Missouri Milk Vetch	+	+		+	+						
A. pectinatus	Narrow-leaved Milk Vetch	+	+									
A. striatus	Striate Milk Vetch		+									
A. tenellus	Loose-flowered Milk Vetch		+									
A. triphyllus	Cushion Milk Vetch		+									
Caragana arborescens	Common Caragana			+				+			+	
Hedysarum alpinum	Alpine Hedysarum			+								
H. mackenzii	Mackenzie's Hedysarum		+	+		+			+		+	
H. sulphurescens	Yellow Hedysarum				+							
Lathyrus ochroleucus	Yellow Peavine			+	+	+	+	+	+	+	+	+
Lotus corniculatus	Birdsfoot Trefoil											+
Lupinus argenteus	Silvery Perennial Lupine		+									
Medicago falcata	Yellow Lucerne										+	
M. lupulina	Black Medick		+									
M. sativa	Alfalfa			+								+
Melilotus officinalis	Yellow Sweet Clover		+								+	+
Onobrychis viciaefolia	Sainfoin											+
Oxytropis sericea	Early Yellow Loco-weed	+	+		+	+	+		+			
O. viscida	Sticky Loco-weed				+	+						
Psoralea esculenta	Indian Bread-root		+									
Thermopsis rhombifolia	Golden Bean		+	+	+		+	+				
Trifolium hybridum	Alsike Clover											+
T. pratense	Red Clover											+
T. repens	White Clover					+			+		+	
Vicia americana	Wild Vetch		+			+	+	+	+		+	
V. sparsifolia	Narrow-leaved Vetch	+		+								

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
GERANIACEAE (Geranium Family)												
Geranium bicknellii	Bicknell's Geranium								+			+
G. richardsonii	Wild White Geranium						+					
G. viscosissimum	Sticky Purple Geranium			+			+					
LINACEAE (Flax Family)												
Linum lewisii	Wild Blue Flax		+	+	+	+						
L. rigidum	Yellow Flax		+									
POLYGALACEAE (Milkwort Family)												
Polygala paucifolia	Fringed Milkwort											+
P. senega	Seneca-root				+		+					
MALVACEAE (Mallow Family)												
Sphaeralcea coccinea	Scarlet Mallow		+									
VIOLACEAE (Violet Family)												
Viola adunca	Early Blue Violet	+		+	+	+	+	+	+	+	+	+
V. nephrophylla	Bog Violet				+		+	+	+			+
V. pedatifida	Crowfoot Violet			+								
V. renifolia	Kidney-leaved Violet					+			+	+		
V. rugulosa	Western Canada Violet			+	+		+	+	+	+	+	+
CACTACEAE (Cactus Family)												
Opuntia polyacantha	Prickly Pear Cactus		+									
ELAEAGNACEAE (Oleaster Family)												
Elaeagnus commutata	Silverberry	+	+	+	+			+	+			+
Shepherdia canadensis	Canadian Buffalo-berry				+	+			+		+	
ONAGRACEAE (Evening Primrose Family)												
Gaura coccinea	Scarlet Butterfly-weed		+									
Oenothera caespitosa	Butte Primrose	+										

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
ARALIACEAE (Ginseng Family)												
Aralia nudicaulis	Wild Sarsaparilla						+	+	+	+		+
UMBELLIFERAE (Carrot Family)												
Lomatium foeniculaceum	Prairie Parsley		+									
L. macrocarpum	Long-fruited Prairie Parsley			+							+	
L. triternatum	Prairie Parsley	+				+						
Musineon divaricatum	Yellow Prairie Parsley	+	+			+						
Zizia aptera	Heart-leaved Alexanders			+	+	+	+	+		+	+	
CORNACEAE (Dogwood Family)												
Cornus canadensis	Bunchberry				+	+	+		+	+	+	+
C. stolonifera	Red Osier Dogwood			+			+	+	+	+	+	+
ERICACEAE (Heath Family)												
Arctostaphylos rubra	Alpine Bearberry				+							
A. uva-ursi	Kinnikinnick			+	+	+	+		+	+	+	+
Chamaedaphne calyculata	Leather-leaf											+
Kalmia polifolia	Mountain Laurel											+
Ledum groenlandicum	Common Labrador Tea					+			+	+	+	+
Oxycoccus microcarpus	Small Bog Cranberry									+		+
Vaccinium myrtilloides	Blueberry								+	+		+
V. vitis-idaea	Bog Cranberry								+	+		+
PRIMULACEAE (Primrose Family)												
Androsace chamaejasme	Sweet-flowered Androsace				+	+						
A. septentrionalis	Fairy Candelabra	+						+	+		+	
Dodecatheon conjugens	Shooting Star				+	+		+				
D. radicatum	Shooting Star				+	+	+	+				+
Glaux maritima	Sea Milkwort							+				
Primula mistassinica	Dwarf Canadian Primrose					+						
Trientalis borealis	Star-flower											+

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
GENTIANACEAE (Gentian Family)												
Menyanthes trifoliata	Buck-bean				+							+
APOCYNACEAE (Dogbane Family)												
Apocynum androsaemifolium	Spreading Dogbane			+			+					
CONVOLVULACEAE (Morning-glory Family)												
Convolvulus arvensis	Field Bindweed		+									
C. sepium	Hedge Bindweed		+									
POLEMONIACEAE (Phlox Family)												
Phlox hoodii	Moss Phlox	+	+	+						+	+	+
BORAGINACEAE (Borage Family)												
Cryptantha macounii	Cryptanthe	+										
Cynoglossum officinale	Hound's-tongue		+									
Lappula echinata	Blue-bur							+	+			
L. redowskii	Western Blue-bur	+	+		+	+						
Lithospermum incisum	Narrow-leaved Puccoon	+	+	+		+						
L. ruderale	Woolly Cromwell			+	+							
Mertensia paniculata	Tall Lungwort						+		+	+	+	+
LABIATAE (Mint Family)												
Mentha arvensis	Wild Mint								+			
Moldavica parviflora	American Dragonhead								+			+
SCROPHULARIACEAE (Figwort Family)												
Castilleja miniata	Common Red Paintbrush				+	+						
C. raupii	Northern Paintbrush											+
Collinsia parviflora	Blue-eyed Mary				+							
Penstemon albidus	White Beard-tongue	+	+									
P. nitidus	Smooth Blue Beard-tongue	+	+	+	+							
P. procerus	Slender Blue Beard-tongue						+					

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
LENTIBULARIACEAE (Bladderwort Family)												
Pinguicula vulgaris	Common Butterwort				+	+						
PLANTAGINACEAE (Plantain Family)												
Plantago eriopoda	Plantain	+										
P. major	Common Plantain					+						
RUBIACEAE (Madder Family)												
Galium boreale	Northern Bedstraw			+					+		+	+
CAPRIFOLIACEAE (Honeysuckle Family)												
Linnaea borealis	Twin-flower											+
Lonicera dioica	Twining Honeysuckle						+	+	+		+	+
L. involucrata	Bracted Honeysuckle				+	+			+	+	+	+
L. tartarica	Tartarian Honeysuckle			+								
Symphoricarpos occidentalis	Buckbrush			+								
Viburnum edule	Low-bush Cranberry				+	+	+		+	+		+
V. trilobum	High-bush Cranberry						+		+		+	+
ADOXACEAE (Moschatel Family)												
Adoxa moschatellina	Moschatel									+		+
VALERIANACEAE (Valerian Family)												
Valeriana septentrionalis	Valerian				+							
COMPOSITAE (Composite Family)												
Achillea millefolium	Common Yarrow		+									+
Antennaria sp.	Pussytoes				+	+					+	
A. neglecta	Broad-leaved Pussytoes							+	+			+
A. nitida	Small-flowered Pussytoes		+	+	+	+		+	+	+		
A. parviflora	Low Pussytoes				+						+	
A. rosea	Pink Pussytoes					+						

FAMILY SCIENTIFIC NAME	COMMON NAME	Milk River	Lethbridge	Calgary	Yamnuska	Banff-Canmore	Red Deer	Buffalo Lake	Edmonton area	Drayton Valley	Grande Prairie	Fort McMurray
Arnica cordifolia	Heart-leaved Arnica				+	+	+				+	
A. fulgens	Arnica	+										
A. lonchophylla	Arnica				+							
Coreopsis tinctoria	Common Tickseed	+										
Crepis tectorum	Annual Hawksbeard											
Erigeron caespitosus	Tufted Fleabane			+				+	+			+
E. compositus	Cut-leaved Fleabane				+	+						
Gaillardia aristata	Brown-eyed Susan		+									
Grindelia squarrosa	Gumweed		+									
Gutierrezia sarothrae	Broomweed	+										
Hymenoxys acaulis	Butte Marigold	+	+									
H. richardsonii	Colorado Rubber-plant		+									
Matricaria maritima	Scentless Chamomile											
M. matricarioides	Pineapple-weed							+				+
Petasites sagittatus	Arrow-leaved Coltsfoot					+	+					
Senecio canus	Prairie Groundsel		+	+		+					+	
S. congestus	Marsh Ragwort								+		+	
S. vulgaris	Common Groundsel				+	+						
Taraxacum laevigatum	Red-seeded Dandelion											+
T. officinale	Common Dandelion			+	+	+	+	+	+	+	+	+
Townsendia sericea	Low Townsendia					+						
Tragopogon dubius	Goat's-beard		+						+			

Total number of species 277.

3. Calgary: A total of 59 (36) species were reported in flower by four observers in the northern and western parts of the city. The areas covered included Nose Hill, the "University Prairie" and the Bowness area of the Bow River. Observers were Beryl Hallworth, Gordon Kerr, Cathy Osborne and Deirdre Spencer.

4. Yamnuska: The Yamnuska area recorded the second highest total of species in flower from those areas submitting reports--98. This is almost double the 1979 total of 55 and illustrates well how advanced the spring of 1980 was in comparison to 1979. Participants in the count were Diane and Mike McIvor and Bob and Mary Smith.

   The Yamnuska area is a meeting point for prairie and mountain flora and when the varied topography of the area is included there is the potential for a great diversity of species and stages of phenological development. This annually results in a large number of species in flower.

5. Banff-Canmore: Joyce and Keith Cole, Diane and Mike McIvor and Bob and Mary Smith listed 77 (55) species in flower along the Banff-Canmore corridor.

6. Red Deer: A total of 53 species were recorded in flower from the Red Deer - Jarvis Bay Provincial Park area. Participants in the count included Dorothy and Geoff Broadbent, Minnie Cunningham, Erling and Margaret Glabais, Helen Harris, Margaret Moore, Nellie and Walter Savage, A.S. Thorley.

7. Buffalo Lake: C.D. Bird and Max Capen reported 57 (37) species in flower from the Bird farm and Buffalo Lake Narrows area.

8. Edmonton area: Three reports were received from the Edmonton area and these have been combined together to give a total of 79 species in flower. Fifty one (27) species were observed in flower by Derek Johnson and Rick Hurdle at an acreage 13 km WSW of Tofield. The Devon area was covered by Wesley and Louis Hochachka who recorded 44 species in flower. Janet Marsh listed 33 species in flower along the Moss Lake Trail in Elk Island National Park. A few incidental flowering observations by the author from the city of Edmonton are also included, as these plants were observed in flower during the count weekend, but were not reported in any of the group counts.

9. Drayton Valley: The area surrounding Hoople Lake, 33 km N of Drayton Valley, revealed 47 (27) plant species in flower. Derek Johnson and Steve Zoltai were the observers.

10. Grande Prairie: For 1980 this area submitted flowering records for 61 (29) species from the vicinity of Saskatoon Lake. Participants included Ellan and Gavin Craig, Lorna Dahl, and Joe LaValley.

11. Fort McMurray: The honour of reporting the greatest number of species in flower on the 1980 May Day Count goes to the Fort McMurray group. A total of 103 (52) species were recorded. The participants were Mary Butler, Marion Horrocks and Margaret Walker.

    Like the Yamnuska area, the Fort McMurray region possesses a high degree of habitat diversity, ranging from dry jack pine-lichen

communities on sand dunes to water-saturated peat bogs, with a wide range of communities in between. Human activity in the area has also introduced a large number of "exotic" and weedy species. When habitat diversity and human activity are considered together, there is the potential for having a large number of species in flower.

A number of the flowering species included in the Fort McMurry count deserve special comment. Several exotic species have been introduced to the area in attempts to revegetate the tailings from the oil sands operations. Birdsfoottrefoil (*Lotus corniculatus*) and Sainfoin (*Onobrychis viciaefolia*), both of which are rare in Alberta, are the most noteworthy of these. Fringed Milkwort (*Polygala paucifolia*) is known to occur in only one area in Alberta near Fort McMurray. Margaret Walker reports that the original location reported by Packer and Dumais (1972), 32 km N of Fort McMurray, has been extirpated, but a new colony has been located not far from the original reported location. This species is listed in The Rare Vascular Plants of Alberta (Argus and White 1978:31).

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ALBERTA CONTRIBUTORS TO THE PRAIRIE NEST RECORD SCHEME - 1980

by H.W.R. Copland, Co-ordinator
Prairie Nest Records Scheme
Manitoba Museum of Man & Nature
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Thirteen Alberta observers contributed 119 cards for the 1980 nesting season to the Prairie Nest Records Scheme. In addition, 107 cards from Alberta were filed for nests found in 1968 and from 1975 to 1979. A program is being undertaken in 1981 to stimulate interest among bird study groups in Alberta in recording observations of bird sightings and also in contributing to the Prairie Nest Records Scheme. Prairie Nest Record cards can be obtained by contacting C. Eric Tull, c/o L.G.L. Ltd., 10110 - 124th Street, Edmonton, Alberta.

Alberta reporters were Daniel Brunton, John E. Christie, Carl R. Cooper, Graeme M. Greenlee, Deidre Griffiths, G.L. Holroyd *et al.*, Ernie Kuyt, Martin K. McNicholl, Brian Nicolai, Ed Osborne, David Schowalter, J.B. Steeves and Tim Trottier.

Species on which nests were reported were: Red-necked Grebe 2; Eared Grebe 2; Pied-billed Grebe 3; Black-crowned Night Heron 1; Mallard 4; Pintail 1; Blue-winged Teal 2; Redhead 2; Canvasback 2; Lesser Scaup 4; Bufflehead 1; Ruddy Duck 6; Goshawk 1; Cooper's Hawk 2; Red-tailed Hawk 2;

Swainson's Hawk 1; Ferruginous Hawk 1; Bald Eagle 2; Osprey 2; Prairie Falcon 1; Killdeer 1; Spotted Sandpiper 2; Great Horned Owl 6; Burrowing Owl 20; Long-eared Owl 1; Common Nighthawk 1; Common Flicker sub. sp. 1; Eastern Kingbird 1; Barn Swallow 2; Cliff Swallow 40 nests 1 card; Blue Jay 1; Black-billed Magpie 2; Common Raven 2; Black-capped Chickadee 1; Gray Catbird 1; American Robin 1; Hermit Thrush 1; Swainson's Thrush 1; Townsend's Solitaire 1; Water Pipit 1; Cedar Waxwing 4; Common Starling 1; House Sparrow 1; Brewer's Blackbird 4; Rose-breasted Grosbeak 1; American Goldfinch 7; Red Crossbill 1; Savannah Sparrow 3; Clay-colored Sparrow 1; White-crowned Sparrow 1; White-throated Sparrow 1; Lincoln's Sparrow 2; Song Sparrow 2.

THE BREEDING BIRD SURVEY IN ALBERTA

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by Jack L. Park
Provincial Co-ordinator - BBS
10236 - 70 Street
Edmonton, Alberta T6A 2T4

The Breeding Bird Survey (B.B.S.) was started by the Migratory Bird Population Stations of the U.S. Fish and Wildlife Service in 1966, and included 26 eastern states and 4 Canadian Provinces. Western Canada was included in the program in 1968 under the supervision of the Canadian Wildlife Service (C.W.S.). The BBS is an attempt to direct some of the enthusiasm of volunteer bird observers into efforts to look for and measure changes in bird populations resulting from environmental change.

In 1968 5 routes were run in Alberta, and it should be mentioned that from this first venture into a co-operative data collecting project, 3 members of that first group still maintain their original routes: Ian Halladay, Harry Horton and Jack Park.

The instructions were formidable, the hour of departure unheard of, a bewildering medley of bird songs and calls when that first step was taken out of the vehicle! Other regulars who have joined the ranks of the BBS at a later date still continue with the same enthusiasm as the first year they ventured out.

A good cross section of individuals are involved with the BBS, including lab technicians, farmers, housewives, agriculturalists, oil men, school teachers, carpenters, etc. In the last 3-4 years several professional ornithologists have shown interest in the project and now take surveys.

As previously mentioned, in 1968 5 routes were run. There were 7 in 1969, 11 in 1970, 17 in 1971, 27 in 1972, 36 in 1973, 31 in 1974, 33 in 1975, 29 in 1976, 21 in 1977, 24 in 1978, and 27 in 1979. Results of the 1980 survey have not been returned to me yet, but I had indications that 35 routes would be undertaken. I have had confirmations of 16 routes being completed, and as a rule the final results from Patuxant come in February or March when we will be well under way confirming routes for 1981.

Interested individuals or groups who are willing to help in a most pleasant and useful activity are encouraged to write for further information. Response from the Peace River area would be especially appreciated as this section of Alberta is quite wide open.

CWS Progress Notes contain interim data and conclusions and are presented as a service to other wildlife biologists and agencies, and are available from CWS, Ottawa, K1A 0E7. Those published to date are: #15 for 1969, #21 for 1970, #26 for 1971, #32 for 1972, #38 for 1973, #45 for 1974, #60 for 1975, #74 for 1976, all by A.J. Erskine, #84 for 1977, Finney, Freemark, Erskine, #99 for 1978, Freemark, Cooper, Finney and Erskine, #111 for 1979, Finney, Cadieux and Silieff.

Especially interesting is CWS Report Series #42, The First Ten Years of the Co-operative BBS in Canada by Anthony J. Erskine, also available from CWS, Ottawa.

Rules for the survey follow (slightly modified to apply to Alberta).

Section of Migratory Non-Game Bird Studies
Bureau of Sport Fisheries and Wildlife
Migratory Bird Populations Station, Laurel, Maryland 20810

COOPERATIVE BREEDING BIRD SURVEY OF NORTH AMERICA

Purpose: To obtain, by random sampling, an index of abundance of breeding birds. Such a technique is needed in order to provide information on distribution and relative abundance of North American birds, and specifically to measure changes in abundance that result from such factors as changes in land use and widespread applications of pesticides.

Sampling Technique: Each one-degree block of latitude and longitude (about 55 miles wide, east to west, by 70 miles long) will be sampled by one or more random transects or "routes." In most states and provinces, west of the 100th meridian the sample size has been reduced to one route for each two-degree block. The number of routes per degree block will vary according to the number of qualified observers available, but preferably will remain uniform with a given state or province. Starting points and compass directions have been determined at random. Each route is covered once each summer by the following standardized procedure: Begin exactly one-half hour before sunrise; make 50 stops one-half mile apart and count all birds heard at each stop or seen within one-fourth mile during a 3-minute watching and listening period. One observer should do all the observing on a given route, but he may have an assistant to help with recording or driving. Unless driving conditions are very poor, most routes can be completed in 4 to 4 1/2 hours. (Editor's note: as Canadian cars are now in km., it is helpful to check your estimate of half-mile intervals on a topographic sheet - M.K.M.).

Time Period: In most states, routes should be run in June. In Canada and bordering states the first week of July is acceptable. In general, select a date as near as possible to last year's.

Scouting of Routes is strongly recommended. More leisurely trial runs may be made in advance to become familiar with songs and calls and with roads and stopping locations. A single route may be run more than once if the observer wishes to have the practice, but only one coverage of a route should be reported; this must not be the best of several coverages, but the first one made under satisfactory conditions of weather and familiarity with birds along the route.

STRICT ADHERENCE TO RULES IS ESSENTIAL FOR STATISTICAL ANALYSIS OF RESULTS!

DIRECTIONS FOR RUNNING ROUTES

Equipment: Clip board, pencils, forms supplied by the Migratory Bird Populations Station (available from Jack Park at above address), map, binoculars, watch with second hand (or automatic 3-minute timer), gasoline, thermometer.

Weather: To be comparable, routes must be run under satisfactory weather conditions: good visibility, little or no precipitation, light winds. Occasional light drizzle or a very brief shower may not affect bird activity, but fog, steady drizzle, or prolonged rain should be avoided. Counts preferably should be made on mornings when the wind is less than 8 mph, except in those prairie States and Provinces where winds normally exceed Beaufort 3. (If you can walk faster than the wind is blowing, winds are very satisfactory.) Counts should not be taken if the wind exceeds 12 mph.

Weather Codes (enter Beaufort Numbers on Summary Sheet)

Beaufort Number	Wind Speed miles/hr	Indicators of Wind Speed
0	Less than 1	Smoke rises vertically.
1	1 to 3	Wind direction shown by smoke drift.
2	4 to 7	Wind felt on face; leaves rustle.
3	8 to 12	Leaves and small twigs in constant motion; wind extends light flag.
4	13 to 18	Raises dust and loose paper; small branches are moved.
5	19 to 24	Small trees in leaf begin to sway; crested wavelets form on inland waters.

Sky condition (enter these Weather Bureau code numbers on Summary Sheet)

0 Clear or a few clouds.
1 Partly cloudy (scattered) or variable sky.
2 Cloudy (broken) or overcast.
4 Fog or smoke.
5 Drizzle.
8 Showers(s).

Start 30 minutes before official sunrise. Consult newspaper or Weather Bureau for sunrise time. If starting point is more than 25 miles from the city of reference, start 4 minutes earlier for each degree block (55 mi.) east of the city or 4 minutes later for each degree block to the west. Be at the starting position at least 2 minutes before official start, to record weather and speedometer reading.

Look and listen for exactly 3 minutes and record the number of birds of each species seen with 1/4 mile in all directions and all birds of each species heard regardless of distance; limiting distance for birds seen may be judged as half the distance to the next stop.

Drive 0.5 mile to the next stop. If this stop falls in a place where it is dangerous to stop or where local noise is excessive, the stop may be moved as much as 0.1 mile (forward or back). Do not record any bird seen or heard while driving between stops unless it is subsequently heard at the next stop during the prescribed 3-minute period. In case of excessive traffic noise, up to one additional minute (but no more) may be added to a few stops--but not routinely to all stops. It is important to complete the 50 stops on schedule because singing decreases appreciably soon after 9 a.m.

Speedometers vary slightly, so please mark on your map the number and exact position of one or more stops every few miles --whenever there is a convenient landmark. This will enable you or another observer to stop at the same spots in a subsequent year and to make any necessary adjustments in speedometer readings.

Make 50 stops. Each route consists of exactly 50 stops. Allowing 3 minutes for each stop and 2 minutes driving time between stops, approximately 12 stops will be covered per hour and the entire route will take a little over 4 hours.

What Birds to Count: Count all wild birds (including Rock Doves, *Columbo livia*) seen or heard that can be identified to species. Species recorded which are not found on the form should be added at the bottom. Estimates are permissible only in those cases where a flock is too large to count, bird by bird, in the brief time it is seen. Do not use check marks even for abundant species. No one will detect all birds within hearing or seeing distance of his stops. Hundreds of birds will be missed. Observers should not try to estimate birds that are missed or include them on their report forms even if they are known to be present. We wish to have reported only those birds actually seen or heard during the prescribed 3-minute stops.

Record Keeping: Two types of report forms are enclosed. Take both in the field with you. The summary form is for recording weather conditions at the beginning and end of the count and for reporting a summary of observations that should be compiled after the count has been completed. The form with the ten columns after each species is to be used for recording birds in the field. Get familiar with this form so you can locate the species rapidly. Use one sheet for each ten consecutive stops. Number the first and last stop at the top of the columns, and enter the starting and ending time for each page. The additional spaces for time and speedometer reading for intermediate stops on each page of the Field Sheet are provided for the convenience of the observer (and such data may prove to be valuable).

Processing of Results: The five field sheets, one summary sheet, and the route map should be sent to Willet T. Van Velzen, Migratory Bird Populations Station, Laurel, Maryland 20810. The map will be returned the following year with new forms. This office will enter a State code and Route No. (if a new route), will abbreviate the locality and observer's name if they exceed 12 digits each, and will spot-check the lists. Data from the summary sheet will then be punched onto 80-column data cards, one for each species. A machine listing will be mailed to each observer and a State tabulation will be mailed to each coordinator. A summary of all lists will later be sent to each participant. A comparison of 1967 and 1968 counts will be prepared and an analysis of population changes for the entire area covered will be made available. Data on distribution and comparative abundance of individual species will be available to research workers on request.

ALL FORMS MUST BE COMPLETED AND RETURNED BY 31 JULY 1981

Reporting Results: Immediately after coverage of your route has been successfully completed, please complete and mail the enclosed post card.

If for any reason it should be impossible for you to cover your route during the prescribed period, please contact your Coordinator (i.e. Jack Park) to see whether arrangements might be made for another observer to

run the route, or for you to cover it on a slightly later date.

One set of 5 tally sheets, representing 50 stops, plus one copy of the summary sheet, should be returned as soon as possible after completion of the count. (An extra set of forms is provided for your records.)

Upon completion of the route, coverage data should be transferred from the Field Sheet to the Summary Sheet. The species totals for each of the 5 field sheets should be entered under the appropriate page totals column on the Summary Sheet. The sum of these 5 columns is entered in the Total Indiv. column and the number of stops, out of the total of 50, upon which each species was seen is entered in the Stops per Spec. column.

Special attention should be given to double checking the number of species recorded and all species totals listed on the Summary Sheets.

Details of Picking Starting Locations: Starting points of all routes were taken at random (generally from a table of random numbers corresponding to minutes of latitude and longitude). The intersection of latitude and longitude was found on a map and the first stop of the Route is on the road closest to the latitude-longitude intersection--preferably at some easily recognized landmark. The starting direction was determined from the minutes of latitude and longitude as follows: if the latitude and longitude both end in odd numbers, the route proceeds to the north, if latitude is odd and longitude is even the route goes to the east; if latitude is even and longitude odd the route goes south; and if latitude and longitude are both even (that is, both divisible by 2), the route goes west.

Details of Laying Out Routes: Route maps will be provided for each co-operator. Last-minute adjustments will have to be made in some routes because of impassable roads or heavy traffic, so the procedure for laying out routes is given here in detail. It is important that routes sample urban and suburban areas as well as rural and wilderness areas, so routes should not be changed to avoid populated areas or to include favourite birding localities.

Routes will proceed in the specified direction, as closely as possible, unless or until reaching (1) the edge of the one-degree block; (2) a state or Provincial line; or (3) a body of water that cannot be crossed by bridge. Upon (or at the last chance before) reaching such a barrier, turn clockwise and continue. If the route will reach a dead end before the 50th stop, change any or all of it (except the starting point) as necessary to make a continuous route that does not duplicate itself or another route. Maintain the direction as closely as possible to the original direction, or the next direction clockwise, returning to the original direction at the first opportunity. If routes must cross, omit from the second route any stop that falls within one-half mile of any stop on the first route; add the extra stop at the end. If one route must run along a short portion of another route, the first route has priority and the second route should skip the duplicate stops and add them at the end. If possible, avoid Federal numbered highways, Interstate highways, and state (or Provincial) numbered highways as well as other roads that are apt to have heavy traffic at the time of day you will be there. (Note: this applies only to re-routing, not to routes as already set-up. - M.K.M.) If it is necessary to traverse a well-traveled highway for a short distance, and if traffic interferes seriously with observations, make counts at the first two stops on this

highway, then proceed without stopping until you can leave the highway (then stop about 1/4 mile after leaving it). Add the extra stops at the end of the route.

DEADLINES FOR PROJECT REPORTS

1. Alberta Flowering Dates - 31 October 1981
   Return to: Dr. Charles D. Bird
   Box 165
   Mirror, Alberta
   TOB 3C0

2. Alberta Christmas Bird Counts - 15 January 1982
   Mail to: Virginia Lang Young
   R. R. #1
   Busby, Alberta
   TOG 0H0
   - where a full count is to be published elsewhere, indicate reference as it should be cited.

3. Species Count Day (May) - Birds and Mammals - 15 July 1981
   Mail to: Allen N. Wiseley
   202 - 635 - 56 Ave. S.W.
   Calgary, Alberta
   T2V 0S9

4. Species Count Day (May) - Plants - 15 July 1981
   Mail to: J. Derek Johnson
   Northern Forest Research Centre
   5320 - 122 Street
   Edmonton, Alberta
   T6H 3S5

5. Prairie Nest Records Scheme - 1 October 1981
   Return to: Herbert W.R. Copland
   Manitoba Museum of Man & Nature
   190 Rupert Avenue
   Winnipeg, Manitoba
   R3B 0N2

OVERHEARD

Medicine Hat through the eyes of a Land Commissioner

"Medicine Hat ... is a most deplorable place. It is entirely sandy banks and plains covered with cactus and sage brush, and replete with rattle snakes."

- Charles John Brydges, 1882
(in a letter published in a book on his letters as Hudson's Bay Company Land Commissioner by the Hudson's Bay Record Society, 1977).

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DEADLINES for submission of material for regular issues are: January 15; April 15; July 15; and October 15. Deadlines for research reports are published in each issue. Please include your mailing address. All maps and charts should be submitted on 8 1/2 x 11" (or 8 1/2 x 7") white bond. Please indicate in light pencil any data which are to be typed on charts, maps, etc. Black and white photographs, slides or drawings are welcomed.

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